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Washington Views

State and Territorial Health Officers at their annual meeting in Washington the week of November 7 elected Dr. Daniel Bergsma, N.J. Health Commissioner, as their president and adopted a resolution asking Congress to extend the cut-off date for Federal grants to aid in financing purchases of poliomyelitis vaccine. The date now fixed is February 15, 1956. The $30 million appropriated by Congress to purchase Salk vaccine was to be used up by February 15 but sufficient vaccine has not been available thus far to indicate purchase at a rate fast enough to exhaust this appropriation by the February deadline.

Surgeon General Leonard A. Scheele of the Public Health Service predicted complete victory over poliomyelitis at meetings of the health officers in Washington and of the American Public Health Association in Kansas City during this month.

Surgeon General Dan C. Ogle of the Air Force made a strong plea for Federal medical care of dependents of military personnel before the Association of Military Surgeons meeting in Washington the week of November 7.... The National Wholesale Druggists' Association elected James E. Allen, executive vice-president of Henry B. Gilpin Company of Washington, D.C., as president to succeed Herman Nolen.... Another meeting of the National Drug Trade Conference Committee on Uniform State Laws will be held in Washington on November 25.

The Food and Drug Administration announces that coal tar dyes designated as FD&C Orange No. 1, FD&C Orange No. 2 and FD&C Red No. 32 may hereafter be used only for external drug and cosmetic coloring. These colors have been found not to be completely harmless when used in foods and drugs for internal administration.

The 74 member colleges of the American Association of Colleges of Pharmacy conferred 3,417 Bachelor of Science degrees in pharmacy in the academic year 1954-55, as compared with 3,909 in the previous year. They conferred 112 Master of Science and 68 Doctor of Philosophy degrees during the same period, as compared with 123 and 113 such degrees, respectively, in 1953-54.

The Federal Civil Defense Administration has on order 832 improvised hospitals designed to augment existing hospital beds for mass casualty care in the event of an enemy attack upon the U.S. It is expected that about 26 cities scattered throughout the nation will shortly receive these 200-bed improvised hospitals for display, recruiting and training purposes.

. . .and last-minute news

The 50th anniversary of enactment of national legislation in the food, drug and cosmetic fields will be celebrated during 1956 under the auspices of the Association of Food and Drug Officials of the United States. The Association has appointed committees to assist in developing programs in connection with annual meetings of professional and trade associations in the food and drug field. A. H. Fiske, Lilly vice president, has been named chairman for the drug and cosmetic industries, with S. L. Mayham of the Toilet Goods Association serving as vice chairman. President Theodore Roosevelt signed the first Food and Drugs Act on June 30, 1906. It is planned to make this anniversary an occasion also to honor the memory of Dr. Harvey Wiley who led the fight for enactment of Federal legislation to regulate the quality of drugs.

A.Ph.A. members are now submitting nominations for the 1956 Chilean Iodine Education Bureau, Inc., award. Now in its 8th year, the $1,000 award is made for outstanding research in the chemistry and pharmacy of iodine. Details appear in the November Scientific Edition.

Francis S. Balassone, Baltimore pharmacist, has been appointed to succeed Dr. L. M. Kantner as chief of the Division of Drug Control of the Maryland State Department of Health.

It is anticipated that Henry W. Elliott, Assistant Professor of Pharmacology in the University of California School of Medicine, Fabian Maurina, Director of Analytical Laboratories of Parke, Davis & Co., Guildford C. Gross, Professor of Pharmacology at South Dakota State College, and Fred Elmadjian, of the Worcester Foundation for Experimental Biology will soon be added to the U.S.P. Revision Committee to fill existing vacancies.

Eugene N. Beesley, president of Eli Lilly and Company, in an address to the National Wholesale Druggists' Association on November 8, predicted a market of $1,650 million annually for prescription products within the next 10 years. This is an increase of $650 million over the present market at manufacturers' selling prices and is based on an expected increase of 27 million in the population of the U.S. within the next decade.

Smith, Kline & French Laboratories has requested return of current "Feosol Plus" stocks because routine reexamination of control samples revealed that, after a period of time, one of the ingredients falls below standard potency. New stocks will be available in the immediate future from wholesalers, and the firm has requested discontinuance of sale of present stocks which may be returned to wholesalers for credit.

℞ information service

Members of the American Pharmaceutical Association are invited to submit their professional problems to The Journal, 2215 Constitution Ave., N. W., Washington 7, D. C. Inquiries should include all pertinent details.

Antacid Gel—Effervescence

Could you please explain the violent effervescence on addition of citric acid solution to a marketed antacid-antispasmodic gel? What can be used to make the product less sweet?—R. J. M., New York.

The commercial product represents a suspension of magnesium oxide and dried aluminum hydroxide gel, in addition to the antispasmodic, with a wetting agent and a methylcellulose vehicle. The effervescence is caused by the small amounts of carbonates such as basic aluminum carbonate or occluded carbonates from the manufacturing procedure. Use of citric or other acid to lessen the sweetness could be accomplished by addition of small amounts of acid until effervescence ceases. However, this would reduce the acid-neutralizing power of the product. Addition of concentrated fruit flavors can make the product more acceptable.

Pentobarbital Sodium in Elixir

Can you help us with the following incompatible prescription?—D. H. S., California.

Thiamine HCl	*4 Gm.*
Sodium pentobarbital	*3.6 Gm.*
Elixir lactated pepsin	*500 cc.*

Lactated pepsin elixir contains lactic acid, and the *p*H of thiamine HCl solution is about 3. The acid medium causes the liberation of the less soluble pentobarbituric acid from the sodium derivative. This cannot be corrected by addition of alkali as it would hasten deterioration of both the thiamine and the enzyme. The prescribed sodium pentobarbital (3.6 Gm.) is equivalent to about 3.3 Gm. of pentobarbital, which would make a 0.7% solution in the 500 cc. This would require too much alcohol to raise the alcohol content of the elixir sufficiently to keep the pentobarbital in solution. A suspending agent such as acacia or tragacanth could be added (with a shake label), or the sodium pentobarbital could be dispensed separately as elixir pentobarbital (with adjusted dosage) or encapsulated with sufficient dry diluent to supply the prescribed dose per capsule.

Stannous Fluoride Solution (Dental)

How should we prepare 2% stannous fluoride solution to be applied to teeth by a dentist? Our reference indicates that stannous chloride is not that soluble. Where can the chemical be obtained? —A. C. E. C., Oregon.

The stated solubility of stannous fluoride varies greatly in different references: "Merck Index," 6th ed.—very sparingly soluble; "Handbook of Chemistry and Physics"—soluble in cold water. Crystalline stannous fluoride prepared by the method of W. H. Nebergall, J. C. Muhler, and H. G. Day, *J. Am. Chem. Assoc.*, **74,** 1604(1952), dissolves in water up to 29.6% at 18° to form clear solutions initially which hydrolyze and become turbid after one hour.

Orders for experimental quantities of "soluble" stannous fluoride can be sent to J. H. Sanders, Procter & Gamble, Drug Products Division, Sixth & Main Sts., Cincinnati 1, Ohio.

The following is suggested to dentists by J. C. Muhler, D.D.S., as a method for preparing tin fluoride solution for use in topical applications to human teeth: "The essential facts to remember about the tin fluorides are their instability and their increased effectiveness when used freshly prepared. Therefore, to obtain the maximum effectiveness from these compounds, the solutions should be prepared in the following manner: Immediately before the solution is to be used on the patient, the solution is prepared. It is found convenient to have the solid tin fluoride previously weighed into individual samples. This is most conveniently accomplished by having your pharmacist weigh out for you samples of the fluoride weighing 400 mg. into individual gelatin capsules (No. 0 size Lilly is adequate). You should also be provided with distilled water and some method of measuring 10.0 cc. The solid and liquid is mixed and is ready for use. It is necessary that no solution be used which is over one-half hour old, and that a fresh solution be prepared for each patient or separate treatment. It will increase the stability of the fluoride if you keep the solid as well as the individual capsules tightly sealed from air."

NOW—EFFECTIVE STEROID HORMONE THERAPY OF RHEUMATIC AFFECTIONS WITH GREATER SAFETY AND ECONOMY

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Pabalate with Hydrocortisone

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In clinical tests, Pabalate-HC has produced a satisfactory remission of symptoms in approximately 85% of the cases studied.

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FORMULA

In each tablet:

Hydrocortisone (alcohol)	2.5 mg.
Potassium salicylate	0.3 Gm.
Potassium para-aminobenzoate	0.3 Gm.
Ascorbic acid	50.0 mg.

DOSAGE: Two tablets four times daily. Additional information on request.

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LETTERS

Traffic in Drugs

Sirs:

I have transmitted the following communication to Senator Price Daniel, who is conducting hearings with regard to the so-called illicit traffic in drugs.

"I refer you to the recent public hearing you held with recommendations proposed by Commissioner George P. Larrick of the Food and Drug Administration for additional legislation to control the sale of barbiturates and amphetamines.

"Commissioner Larrick places the blame for illicit drug traffic upon the retail drug industry. He is gravely in error in this assumption. Mr. Larrick knows full well that the retail druggist and the retail drug industry do not have a monopoly in supplying drugs, as he testified. The dispensing medical practitioner is also a purveyor of drugs and medicines. . . .

"Our pharmaceutical drug manufacturers should adopt a more intelligent method in the distribution of barbiturate and amphetamine samples to physicians. Examination of an average physician's office or storeroom will prove that our drug manufacturers in their zeal to obtain a favorable competitive position for their products do indiscriminately distribute samples of their wares to physicians.

"There are adequate safeguards under existing Food and Drug regulations to effectively control illicit drug traffic. Commissioner Larrick can utilize our present regulations in a more effective manner if he recommends that the medical practitioner maintain and keep the same records that are mandatory for the retail pharmacist. Our laws should not only be applied to retail druggists but to every segment of the medical and drug industry that actually dispenses drugs and medicines in the interest of better public health service. . . .

"The retail pharmacist has always given and maintained a high degree of professional service to his community. He has more rules and legal red tape to govern his professional conduct than any other recognized profession. Any additional legislation could only result in the gradual elimination of the retail pharmacist as a professional man and further lower the esteem that the public holds for him as a professional. . . ."

Paterson, N.J. MARTIN GOLDSTEIN, Ph.G.

Interested in Handling New Products

Young and aggressive sales organization consisting of eight highly trained representatives, covering retail drugstores, hospitals, physicians and religious institutions every six weeks in Quebec, Eastern Ontario, and Maritimes, would be interested in handling additional products beneficial to the above trade and profession. For information, write to J. M. Pepin, Lancet Limited, 1615 East Lagauchetiere, Montreal 24, Quebec.

Brand Names

Sirs:

In the August issue, David D. Stiles states that physicians prefer brand names. The statement is true, and it is a sad commentary on the power of propaganda.

Medical students are now being taught very little about prescription writing. I wonder why. And manufacturers start working on students long before they graduate.

Men who are responsible for human lives should not be subjected to commercial pressure. The minds of such men should be free and without prejudice so that they may choose unhampered what is best for their patients, medicinally and financially.

West Hempstead, N.Y. EDWIN TAIBER

Ophthalmic Solutions

Sirs:

I read with great interest the series on ophthalmic solutions appearing this past year in THIS JOURNAL. These articles confirm a long-standing belief of mine that we should all exercise more care in the preparation and sterility of extemporaneously compounded solutions.

I am very interested in obtaining more information about the Selas laboratory filtration and sterilization unit. Please send me the address of the manufacturer and any other information you may have about this unit.

Quincy, Ill. KENNETH R. LOHR

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Adrenaline in Penicillin Shock

Adrenaline, 0.24 ml. 1:1,000 injected subcutaneously, with additional injections of 0.06 ml. at 1-minute intervals if necessary, enabled successful recovery from anaphylactoid shock following injection of one mega unit of crystalline penicillin into the deltoid muscles of 4 patients. Dr. T. H. Tidswell (*Brit. Med. J.*, **4941,** 721, Sept. 17, 1955) stresses importance of inquiring into the possibility of allergic diathesis in patients who have never previously had penicillin.

Skin Test for Penicillin Reaction

Based on a study of 1,000 cases, two Army physicians (*J.A.M.A.*, Sept. 17, 1955) conclude that the skin test is not a reliable indication of penicillin sensitivity. An oral preparation should be used whenever feasible.

Tuberculin Testing of Children

According to a report in *J.A.M.A.* (Sept. 17, 1955) periodic application of the tuberculin test is the key to the control of TB. Testing school children will detect tuberculosis infections soon after they occur and periodic examination of those who become reactors will detect the clinical lesions that evolve when they are most treatable.

Rh Sensitivity and Salk Vaccine

Tests reported in *J.A.M.A.* (Sept. 24, 1955) are stated by the four investigators to be the most sensitive for the presence of Rh antigens that can be devised or imagined in the present state of knowledge. The possibility of sensitization was raised because kidney tissue from Rhesus monkeys (factor first noted in blood of these animals and therefore called Rh) used in the growth medium of the virus for the polio vaccine might introduce Rh antigens. The monkey antigens are slightly different from those in man. The test results did not show even a trace of Rh antigens in the lots of Salk vaccine tested.

Oral Iron Compounds

A therapeutic trial of four commonly used oral iron preparations reported by three British physicians indicates that ferrous sulfate is cheaper and is equally efficacious as ferrous succinate and ferrous gluconate when all are administered orally in doses of 210 mg. of iron daily in the treatment of hypochromic anemias. Only ferric hydroxide was unsatisfactory, the other three forms producing almost equal and satisfactory hematological responses. Patients refractory to one oral preparation were refractory to the others but responded to parenteral iron. Intolerance was noted after ferrous sulfate in 13%, and after ferrous succinate and gluconate in 4% of patients.

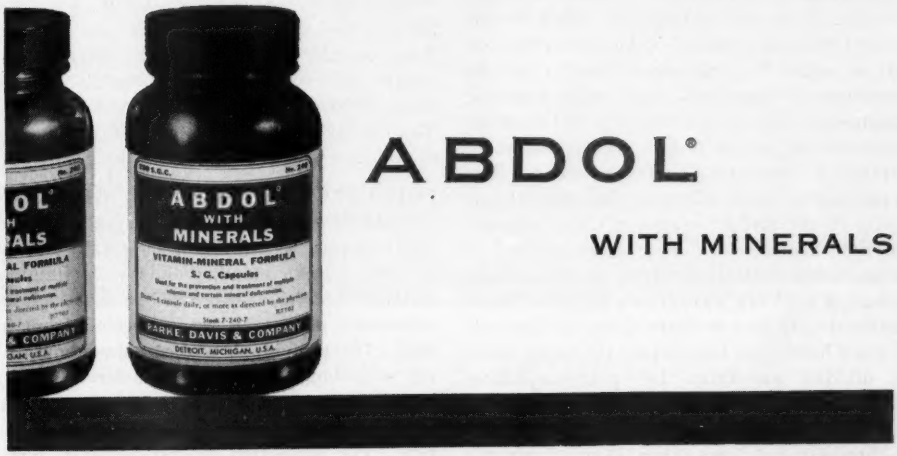
[O'Sullivan, D. J., Higgins, P. G., and Wilkinson, J. F., *Lancet*, **269**, 482(Sept. 3, 1955.)]

Test for Metastatic Carcinoid

A diagnostic test which detects increased amounts of serotonin produced by tissues when a tumor (argentaffinoma) originates in the small intestine and spreads to other organs, particularly the liver, is reported by workers at National Heart Institute, NIH (*J.A.M.A.*, **159**, 397, Sept. 24, 1955). The test can be run on 0.2 ml. urine with 0.8 ml. water in a few minutes using the reagents: 0.5 ml. of 1-nitroso-2-naphthol 1% in 95% alcohol, 0.5 ml. nitrous acid (add 0.2 ml. 2.5% sodium nitrite to 5 ml. 2 *N* sulfuric acid), mix, let stand at room temperature for 10 minutes, then shake with 5 ml. ethylene chloride. A purple color in the top layer indicates the presence of the carcinoid.

Aureomycin and Radium in Cancer

Aureomycin (chlortetracycline) injections improved the response of 28 of 35 far-advanced cancers to irradiation treatment, according to Dr. J. C. Bateman, *et al.*, *Am. J. Roentgenol. Radium Therapy & Nuclear Med.*, **74**, 123(July 1955). Although the majority of the 39 patients included in the study were such that under ordinary circumstances irradiation would not have been attempted, a number received temporary palliation and nine had no evidence of disease 4 to 19 months after treatment was started. Since infection interferes with the action of x-rays, the investigators hoped that chlortetracycline injections at the site of the tumor would clear the tissue sufficiently to let the irradiation work. The report states: "It is true that these statistics on combined irradiation and antibiotic therapy are not too impressive as yet but it is noteworthy that the tumor dosages delivered in most cases were less than the amount considered necessary to produce a favorable response clinically, yet in three cases no residual cancer was found at surgery."



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New and Nonofficial Remedies

Admitted under new policy of A.M.A. Council on Pharmacy and Chemistry. For details see monographs, J.A.PH.A., *Scientific Edition.*, IV, V, VI and VII, Nov. 1955

CYCLOPENTOLATE HCl—Cyclogyl HCl—A synthetic spasmolytic agent, cyclopentolate HCl, instilled in the eye, produces a rapid, intense cycloplegia and mydriasis of moderate duration, and is useful for refraction studies and as a mydriatic. It exhibits about one-half the antispasmodic activity of atropine. Cyclopentolate HCl is administered only in the form of ophthalmic solutions for instillation into the conjunctival sac.

DEXTRO AMPHETAMINE SULFATE U.S.P.—Dexedrine Sulfate—*d*-Amphetamine sulfate has the same actions and uses as racemic amphetamine (Benzedrine) but exerts a predominantly greater stimulating effect on the central nervous system. *d*-Amphetamine sulfate is useful by oral administration for the treatment of narcolepsy and postencephalitic parkinsonism, in acute alcoholism and alcoholic psychoses of recent origin, for treatment of depressive states to elevate the mood. The appetite-depressant effect of the drug also is useful in the dietary management of obesity. In the treatment of depressive states, *d*-amphetamine sulfate is given orally in daily dosage of 5–15 mg. as ordinary tablet or liquid medication in two or three doses at intervals of 4 or 6 hours; for narcolepsy, 10–50 mg. daily in divided amounts; for postencephalitic parkinsonism, 10–25 mg. daily in divided amounts; to control appetite, 15–30 mg. daily in three divided doses taken 30 to 60 minutes before meals. Light sleepers should take final dose early (4 p.m.). Sustained release capsules containing 10 or 15 mg. of *d*-amphetamine sulfate may be administered once daily in the morning.

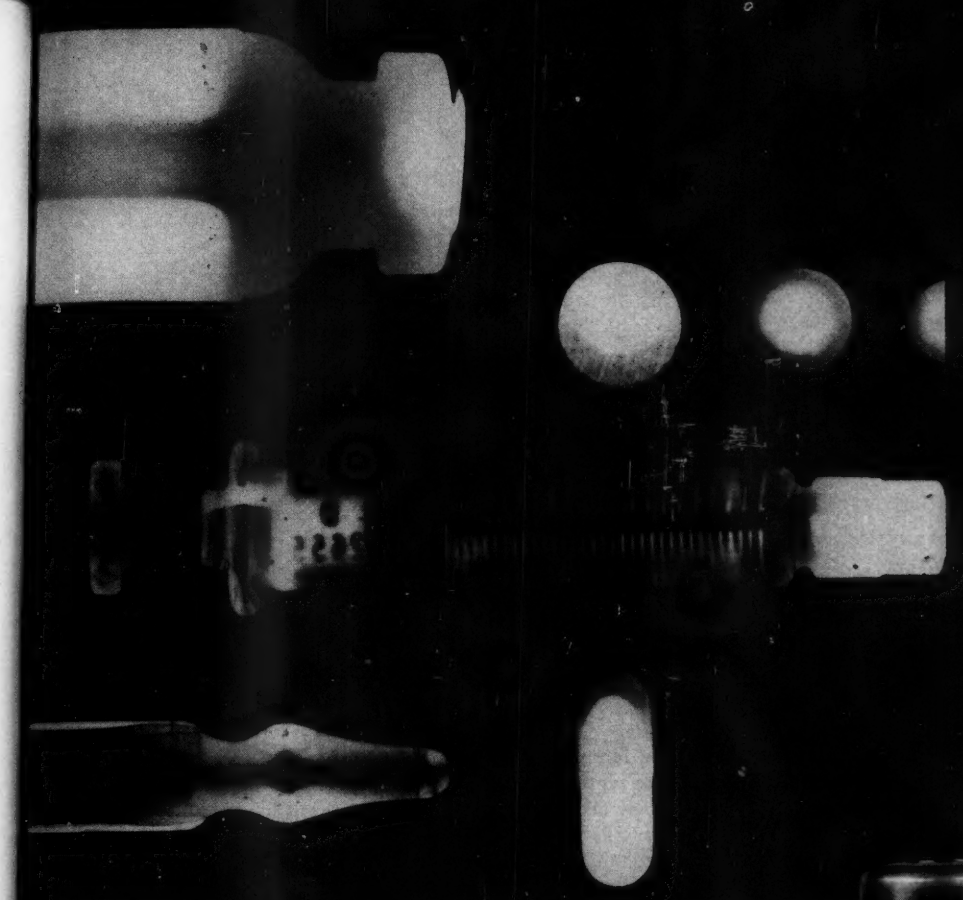
ERYTHROMYCIN ETHYL CARBONATE—Ilotycin Ethyl Carbonate—Erythromycin ethyl carbonate is the ethyl carbonate ester of erythromycin, an antibacterial substance produced by the growth of *Streptomyces erythreus* Waksman. It shares the actions and uses of the parent antibiotic. The ethyl carbonate salt is suitable for the extemporaneous preparation of flavored suspensions of the drug for oral administration. Erythromycin ethyl carbonate is administered orally in doses expressed in terms of erythromycin base. For adults, a dose equivalent to 200 mg. of erythromycin every 4 to 6 hours is considered adequate. The optimal dosage for children has not been finally determined, but a dose equivalent to 5 mg. of erythromycin per lb. of body weight administered every 6 hours is considered reasonable.

HYDRABRAMINE PENICILLIN G—Compocillin—A mixture of crystalline penicillin G salts consisting chiefly of the salt of N,N′-bis-(dehydroabietyl) ethylenediamine, with smaller amounts of the salts of dihydro- and tetrahydro-derivatives. It is a water-insoluble dipenicillin compound salt of a rosin amine base. It is administered orally for acute infections in initial doses of 300,000 to 600,000 units every 6 hours. For continuous prophylaxis in rheumatic fever, approximately 300,000 units orally once or twice daily; patients with streptoccic infections who have had rheumatic fever or show signs of rheumatic heart disease, 800,000 to 1,200,000 units daily (less for children, more for adults) in four divided doses for 5 days, and 600,000 to 750,000 units daily in three divided doses for the second five days. The 10-day treatment should be given even though symptoms disappear earlier.

POLIOMYELITIS IMMUNE GLOBULIN (HUMAN)—A sterile solution of globulins that contains those antibodies normally present in adult human blood, poliomyelitis immune globulin (human) is processed so that each lot represents plasma or serum pooled from at least 1,000 individuals and contains about 165 mg. of globulin per cc. Administered only by intramuscular injection, preferably in the buttock, avoiding accidental intravenous injection. For protection against paralytic polio, 0.14 cc. per lb. of body weight; repeated in 6 weeks if desirable. For modification of measles, 0.02–0.0246 cc. per lb. of body weight; for complete prevention, at least 0.1 cc. per lb. Either dose preferably should be given within 6 days after initial exposure. For prevention or attenuation of infectious (epidemic) hepatitis, 0.02 cc. per lb. of body weight in children or adults; repeat in three weeks if longer protection is desired.

Meticorten—New Generic Name

Meticorten, formerly metacortandracin, now is described generically as prednisone.



protect your penicillin therapy...

To safeguard your patients add 1 cc. of CHLOR-TRIMETON Injection 100 mg./cc. to each 10 cc. vial of aqueous penicillin.

Supplied: 2 cc. multiple-dose vial. For intramuscular and subcutaneous administration.

CHLOR-TRIMETON® maleate, brand of chlorprophenpyridamine maleate.

CT-J-56

Collector's CORNER

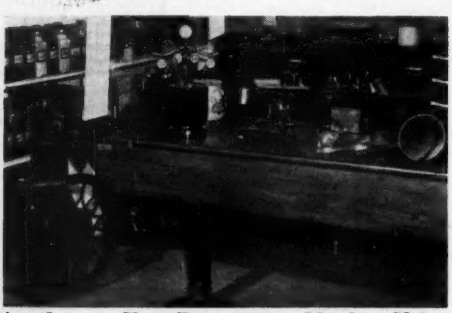
By George Griffenhagen

History of Pharmacy Exhibit in London

An exhibition illustrating the history of pharmacy from the earliest times to the advent of antibiotics was opened at the Wellcome Historical Medical Museum, London, in conjunction with the 16th General Assembly of the International Pharmaceutical Federation. Outstanding material includes prehistoric mortars, ancient Egyptian weights, Greco-Roman pottery, Arabian glass, Lambeth Delft pill-tiles, and a reconstruction of an early European apothecary shop. For complete details and photographs of this outstanding exhibit see *Chemist and Druggist*, Sept. 24 (page 338) and October 1 (page 373), 1955.

Another Early American Pharmacy

Harold Warp, founder of the Pioneer Village in Minden, Nebr., announces the opening of an apothecary shop restoration in this new Midwest landmark for sightseers. The Pioneer Village is located almost in the geographical center of the United States, on Highway 6, 132 miles west of Lincoln. One of the 12 reconstructed buildings houses the apothecary shop restoration (shown at the bottom of the preceding column) of the period 1850–1900. Fixtures and equipment for the pharmacy were collected from various sources in Nebraska. The Village is open 7 days a week from 8 a.m. to 6 p.m. Admission is 90 cents for adults, 25 cents for children.



Apothecary Shop Restoration, Minden, Nebr.

Santa Maria della Scala

Those readers who have not yet seen a copy of the September 1955 issue of *Fortune* are reminded to do so. Here you will find an interesting article by Katharine Hamill with glowing color photographs by Philip Boucas of the "gemlike little pharmacy of Santa Maria della Scala in the tough and dingy Trastevere section of Rome." Illustrations of the colorful drug jars, the drug cabinet decorated with mythical portraits of Paracelsus, Mithridates, Dioscorides, Avicenna and Galen, and the illuminated leaves from Fra Basilio's herbal dictionary, all presented in *Fortune's* elaborate style, make the pictorial artlice of special interest to readers of this column.

Christmas Gift Suggestion

A happy suggestion for a Christmas gift this year is a copy of Dr. D. A. Wittop Koning's 2nd edition of *Art and Pharmacy*. This book, consisting of a collection of 42 colored reproductions of paintings and engravings of pharmaceutical interest, has been published with English, French, German and Dutch captions. It contains 100 spiral-bound pages, size $9^{7}/_{8}$" x $10^{1}/_{4}$", and is bound in linen. Price $5.00. Copies may be ordered directly from the publisher ("De Ijsel," Deventer, Holland) or, for convenience and to expedite shipment, a limited supply is available from this author.

this month Roerig is pushing... new

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Vitamin B_1	*10 mg.*
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Vitamin B_{12}	*20 mcg.*
Vitamin C (as Sodium Ascorbate)	*25 mg.*
L-lysine	*15 mg.*

Important factor for protein improvement

In bottles of 30 Tastitabs which literally melt in the mouth.

NEOBON*

5-factor geriatric supplement

NEOBON is specifically formulated for the geriatric patient. Each of NEOBON's five factors is needed to relieve, prevent or ameliorate one of the five common problems of aging. In soft, soluble capsules. Bottles of 60.

ROERIG Rx

CHICAGO 11, ILLINOIS

*trademarks

FDA Criminal Actions

The Federal government culminated a year-long investigation by FDA agents of illegal sale of amphetamine drugs to interstate truck drivers by having warrants issued for the arrest of 42 individuals on October 25. Sale of amphetamines without prescription was charged against 19 truck stops, including eating places and service stations, located in Virginia, the Carolinas, Georgia, Illinois and Indiana. Three drugstores—in Atlanta, Ga., Wilkesboro, N.C., and Chicago Heights, Ill.—were also involved.

With drug manufacturing firms and the trucking industry cooperating, FDA undercover agents worked as interstate truck drivers to collect evidence. The FDA was alerted through highway accident reports and the safety department reports of trucking firms to the dangers of over-exhaustion and resulting poor judgment caused by unsupervised use of the stimulants. The great majority of truck drivers, FDA inspectors found, make no use of the drugs.

Of 27 criminal prosecutions undertaken by the Federal Food and Drug Administration during September, 14 charged illegal sales of barbiturates, amphetamine, sulfonamides, potent hormones and other prescription drugs. A house-to-house salesman of a vitamin-mineral preparation was penalized for making verbal claims to customers that the product would cure a long list of serious disease conditions.

Over-the-Counter Sales

Los Angeles, Calif.—Refilling prescriptions for amphetamine without physicians' authorizations. Firm and one defendant fined $1,000 each; two defendants fined $200 each; each defendant given a 1 year suspended jail sentence and placed on probation for 6 months.

Miami, Fla.—Refilling prescriptions for amphetamine, cortisone, and sulfonamides without physicians' authorizations. Fined $100 and placed on probation for 2 years.

Terre Haute, Ind.—Refilling prescriptions for amphetamine and sulfonamides without physicians' authorizations. Firm fined $150; individuals fined a total of $300 and court costs.

Revere, Mass.—Selling and refilling prescriptions for amphetamine, barbiturates, Ergotrate Maleate, hormones, and penicillin without physicians' authorizations. Owner fined $600; employee fined $400; each individual given a 2 month suspended jail sentence and placed on probation for 1 year.

Revere, Mass.—Selling and refilling prescriptions for amphetamine, barbiturates, hormones, and penicillin without physicians' authorizations. Firm fined $500; each individual fined $200.

Detroit, Mich.—Selling hormones without physicians' prescriptions. Each defendant fined $1,000 and given a 1 year suspended jail sentence.

Tupelo, Miss.—Selling penicillin without physicians' prescriptions. Fined $50.

Butte, Mont.—Selling barbiturates and tablets containing various mixtures of drugs limited to prescription sale, without physicians' prescriptions. Each defendant fined $100, given a 6 month suspended jail sentence, and placed on probation for 3 years.

Omaha, Nebr.—Selling tablets containing various mixtures of penicillin, sulfonamides and other drugs limited to prescription sale without physicians' prescriptions. Owner fined $175 and court costs of $22.27; employee fined $100 and court costs of $12.73.

Manasquan, N. J.—Refilling prescriptions for barbiturates, Veriloid, Butazolidin, and sulfonamides without physicians' authorizations. Fined $500 and placed on probation for 2 years.

New York, N. Y.—Selling amphetamine, penicillin, and sulfonamides without physicians' prescriptions. Fined $250. (Terminated in August but not previously reported.)

Reading, Pa.—Selling ergot-apiol without physicians' prescriptions. Firm fined $150; owner fined $300.

Fountain City, Tenn.—Selling amphetamine and barbiturates without physicians' prescriptions. Owner fined $350; employee fined $150.

Houston, Tex.—Selling penicillin and sulfonamides without physicians' prescriptions. Given a 90 day suspended jail sentence and placed on probation for 3 years.

Misbranded Drugs

Frederic S. Weichman, t/a N-Y Distributing Co., Hollywood, Calif.—"Nu-Youth" tablets were dispensed without physicians' prescriptions and were dangerous to health; labeling failed to bear adequate directions for use, and contained false and misleading therapeutic statements that the drug was a new, improved, safe sex hormone and could be used in place of testosterone, methyltestosterone, and testosterone propionate for its androgenic effect; that it would provide renewed vigor, endurance, strength, and vitality in men over 40; would rejuvenate men, boost muscle power, increase mental alertness, end irritability, and provide health, sexual aliveness, etc. Fined $200.

Reuben L. Oschman, Platteville, Wis. (house-to-house salesman)—Nutrilite food supplement misbranded by false and misleading therapeutic statements made orally for the treatment of nervousness, rundown condition, arthritis, sinus trouble, asthma, high and low blood pressure, heart trouble, back trouble, headaches, prostate gland trouble, rupture, lack of muscle tone, fatigue, diabetes, piles, stomach ulcers and hardening of the arteries. Fined $100 and placed on probation for 1 year.

Lloyd C. Shanklin, Kansas City, Mo.—Aloe leaves misbranded by false and misleading therapeutic statements made orally for the treatment of stomach disorders, indigestion, gastritis, ulcers, piles and hemorrhoids, fistulas, tumors, cancer, kidney troubles, cataract, arthritis, colitis, diabetes, burns, boils, bruises, sprains, swelling of the joints, eczema and athlete's foot. In July 1954 fined $200 and placed on probation for 2 years; in August 1955 sentenced to 70 days in jail for violating the terms of the probation.

August 18, 1955, the judge overruled the motion for a new hearing but cancelled his jail sentence order, placing the defendant on further probation for 6 months.

Drug Exempted from Legend Requirement

Diamthazole Dihydrochloride

FDA has exempted preparations of diamthazole dihydrochloride [2-dimethylamino-6-(β-diethylaminoethoxy)benzothiazole·2HCl], when properly labeled for self-medication, from prescription-dispensing requirements. The compound is an ingredient in a dusting powder applied externally for prevention of athlete's foot.

The Supreme Court of the United States has refused to review the decision of the Fifth U. S. Circuit Court of Appeals upholding the application of fair trade to trade-marked prescription items. The suit was originally brought by Hoffmann-La Roche Inc. against Schwegmann Brothers Giant Super Markets.

allergic rhinitis, common colds, sinus trouble

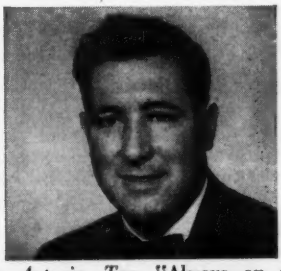
Whatever the cause, Benzedrex* Inhaler relieves nasal congestion in seconds.

By displaying 'Benzedrex' in the newly improved counter carton, you can double your sales—easily, quickly, and with a minimum of space.

The new display carton provides more effective display; yet requires 46% less counter space!

New York, N.Y. "Our sales of 'Benzedrex' Inhalers, since we put up the display cartons, are terrific. 'Benzedrex' Inhaler sales have more than doubled; tripled is probably closer to the facts."

Harry Gans
Gans Surgical Drugs



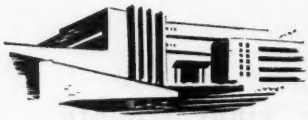
San Antonio, Tex. "Always on my wrapping counter where customers may see it, the display carton has helped triple my sales of 'Benzedrex' Inhalers."

Mario Costantino
Mario's Drug Store

Set up your display TODAY.

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.



Hospital Pharmacy

Hospital Pharmacist Retires

Mrs. Margaret Savage Gary, chief pharmacist at the U.S. Public Health Service Hospital, Norfolk, Va., has retired after 34 years with the Service. Mrs. Gary was the first woman pharmacist to serve in this capacity.

As a member of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists, Mrs. Gary has been active in both organizations over a period of years. She is a charter member of the A.S.H.P. and served as a member of the Executive Committee from 1947–48.

Mrs. Gary was honored by her associates at a ceremony held at the Public Health Service Hospital in Norfolk on October 7. At that time Dr. Robert S. Maddock, chief of medical services at the hospital, other officials, and heads of various departments paid tribute to her. Dr. Maddock read letters and telegrams to her from Dr. Jack Masur, Assistant Surgeon General; the pharmacists of the Public Health Service; Dr. Robert P. Fischelis, A.PH.A. secretary, and Miss Gloria Niemeyer, secretary of the American Society of Hospital Pharmacists.

1955 A.H.A. Convention

"Working Together for Better Health" was the theme of the annual convention of the American Hospital Association held in Atlantic City, N.J., September 19–22. Highlighting the meeting were discussions on "Working Together for Community Defense," "The Hospital and the Community," and "Civil Defense—Its Implications to Hospitals." Community and hospital leaders considered the theme in a total perspective from the sociology of current trends of community development, trends in hospital and medical care, hospital financing, and hospital-physician relationships.

The AMERICAN PHARMACEUTICAL ASSOCIATION was represented among the educational exhibits at the A.H.A. Convention. Hospital pharmacists from the New Jersey Society and the Philadelphia Chapter were present at the exhibit throughout the week. Also representing the ASSOCIATION at the convention were Dr. Robert P. Fischelis and Charles C. Rabe from the headquarters staff. Milton Skolaut, vice president of the A.S.H.P., represented the Society.

Institutes on Hospital Pharmacy

The annual Institutes on Hospital Pharmacy are continuing to expand both in scope and attendance. During the current year the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists have cooperated in sponsoring three such meetings, offering more than 300 hospital pharmacists an opportunity to participate in refresher courses. These are designed especially to assist in problems in day-to-day practice. Numerous other regional and local institutes and seminars have been conducted this year by A.S.H.P. Chapters throughout the country.

The 1955 Institutes included two which were sponsored in cooperation with the American Hospital Association—one at the University of Chicago Clinics, Chicago, Ill., June 13–17, and the other at Emory University, Atlanta, Ga., August 22–26. The other national Institute held during 1955 was the one sponsored annually by the Catholic Hospital Association. This Institute, which is conducted under the auspices of the C.H.A.'s Committee on Pharmacy Practice, was held in St. Louis in May.

Arrangements for future Institutes have been made by the A.H.A., the A.PH.A., and the A.S.H.P. Two such meetings have been scheduled for pharmacists in 1956:

University of Texas, Austin, Tex., June 18–22
University of Chicago Clinics, Chicago, Ill., August 20–24

The Catholic Hospital Association will also hold an Institute in 1956 in conjunction with its annual convention, which will be held in Milwaukee late in May.

Mysteclin

STECLIN-MYCOSTATIN
(SQUIBB TETRACYCLINE-NYSTATIN)

WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS

BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

bronchitis	gonorrhea	osteomyelitis	pyelonephritis
colitis	lymphadenitis	otitis media	sinusitis
furunculosis	meningitis	pneumonia	tonsillitis

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITHOUT THE DANGER OF MONILIAL OVERGROWTH

Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.

SQUIBB

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

Minimum adult dose: 1 capsule q.i.d.

Supply: Bottles of 12 and 100.

'MYSTECLIN', 'STECLIN' AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

Once More, Public Relations

THERE seems to be no end to the speculation about the kind of "public relations campaign" that should be undertaken in behalf of pharmacy and the drug industry. Perhaps it is well that this entire concept of natural, synthetic, or guided publicity and propaganda for a better appreciation of what pharmacy means to the public should be thoroughly explored.

Some recent developments in the organized and unorganized exploration now going on in this field within the drug industry have been eye-openers to many people. For example, a great many of the leaders in the drug industry who attended and participated in the recent Rensselaer Polytechnic Institute Industrial Council were taken aback when it was revealed by the forthright questioning from the schoolteachers, at whom their speeches and discussions were directed, that many were under the impression that the business in drugs and medicines has something of a racketeering aspect and that the worst things that one reads about advertised remedies applies to practically everything that emanates from the drug industry.

The teachers, who are supposed to be opinion molders, apparently had little respect for the research activities, control procedures and other serious efforts of the drug industry to furnish standardized products at a reasonable cost. The record of service to medical care and better health of which the industry is justly proud has not, apparently, impressed itself too well upon the public. All they seemed to know about medicines was that they cost considerable sums and that apparently there is a great deal of fakery in this field, as revealed in the daily press and magazine stories. This can be traced back to the periodic releases from the Food and Drug Administration, the Federal Trade Commission and other government agencies.

It was of no great help to have a series of sensational articles on the horrors of barbiturate medication on the front page of the *New York World-Telegram* day after day at about the same time or shortly after the Rensselaer conference was going on. And the publicity given to hearings before the Boggs Committee of the House of Representatives and the Daniels Committee of the Senate indicating that all is not well with the regulation of distribution of narcotic and hypnotic drugs, added to the bad press which the drug industry seems to have acquired recently.

Some of the national associations in the field of pharmacy have been recording themselves recently as favoring an industry-wide public relations program, and there are all kinds of views as to how this should be financed and controlled. Obviously, professional public relations organizations are just itching to get their fingers into this somewhat panicky situation, so that it is quite important that any move which is made to combine efforts in behalf of organized public relations activity should have sound leadership.

A careful study of the present situation would undoubtedly reveal that the unfavorable publicity complained of arises from over-emphasis on a relatively few isolated incidents in various sectors of the profession and drug industry. Pitiless publicity on the derelictions of those who are actually responsible might be all that is needed to make it clear to the general public that the drug industry, on the whole, is remarkably clean and highly respectable. Its scrupulous adherence to a high-minded code of ethics and to efficient control procedures in the manufacture of pharmaceuticals has been demonstrated time and again under conditions of stress and strain. Those who are the leaders in the profession of pharmacy and the drug industry take their responsibilities very

seriously and have exhibited a social conscience quite equal to that of the most scrupulous members of the medical profession.

It is important at this stage to have it understood that any movement intended to "sell" the high principles which guide those engaged in the production and distribution of drugs should be developed carefully and should call upon the thinking and experience of all organizations which can make a moral as well as a financial contribution to the effort.

If the mechanics of a public relations program are to be entrusted to so-called experts in the field of public relations, the selection of the experts should be made not on the basis of their own moral and ethical concepts but upon the basis of the ethics and conscientious beliefs of those who have been close to the professional function of supplying auxiliary services to the profession of medicine and who have in their own way impressed their high standards of professional service in the field of public health upon the people of our country.

Remington Medalist for 1955

DR. ROY BIRD COOK, whose serious countenance greets us from the front cover of this issue of our JOURNAL, has much in common with the late Joseph P. Remington in whose honor the medal, which Dr. Cook is to receive on December 5, has been named.

Professor Remington was a man of many parts and so is Dr. Cook. In his day Remington was not only a practicing pharmacist, a teacher, an author and an administrator, but also a student of human nature who retained the common touch as he advanced in his profession. He was a great harmonizer of the views of his contemporaries and very able in securing their cooperation in working together effectively.

As dean of the Philadelphia College of Pharmacy he made outstanding contributions to the development of that institution, but his fame and international reputation probably rest to a greater extent upon his achievements as chairman of the U.S.P. Revision Committee. In that capacity he supplied the leadership by which several decennial revisions of that official compendium were produced through the combined efforts of the medical and pharmaceutical professions.

Roy Bird Cook has earned his laurels in pharmacy by close application to supplying the pharmaceutical services needed by his West Virginia community and to the enforcement of the pharmacy laws of his state. The latter function became his duty when he was first appointed to the West Virginia Board of Pharmacy in 1925, and he has served as secretary and principal law enforcement officer of that Board with distinction ever since. He, like Remington, has impressed his contemporaries with the importance of self-government of the professions through a voluntary observance of stringent codes of ethics, as well as close attention to legal requirements. The National Association of Boards of Pharmacy elected him as its president in 1938.

His manner of speech, pleasing personality and interesting method of presentation of the problems of the day, by drawing upon a vast store of historical information and personal experience, remind one of the factors which made Remington the attractive figure he was to so many pharmacists of his day.

Dr. Cook is a versatile man. His avocation is exploring the records of by-gone days in the field of American history. Those who have had the opportunity to read his fascinating accounts of the exploits of "Stonewall" Jackson and other writings know that he is a biographer and historian of note. As a collector and interpreter of manuscripts, books and mementos dealing not only with pharmacy he has won wide acclaim in lay, academic and professional circles. West Virginia University conferred upon him an honorary degree of Doctor of Laws, and many other organizations have honored him. All of this has been to the good of pharmacy.

In Roy Bird Cook the profession has not only a faithful servant who has given much of his life to the advancement of sound standards of pharmaceutical practice but also an able citizen who has impressed other professions, government agencies and men of importance in the affairs of community and state with the wide range of his interests and the extent of the contributions a pharmacist can make to the welfare of his community.

We of the AMERICAN PHARMACEUTICAL ASSOCIATION salute our past president and highly respected co-worker as the New York Branch of the A.PH.A. is about to confer

upon him pharmacy's most distinguished award—the Remington Honor Medal.

Why Not the Whole Truth?

LAST June, forthright Dr. Harry Gold, member of the U.S.P. Revision Committee and professor of clinical pharmacology at the Cornell University Medical School, addressed the Pharmaceutical Advertisers Club at a luncheon held during the convention of the American Medical Association. Among other things he told them that teachers in medical colleges wished they could use the beautifully illustrated and well written literature of many drug manufacturers in their classes. It is so much more attractive than the textbooks, he pointed out, and it could serve a most useful purpose as a teaching tool because it covers many details about new drugs which do not find their way into textbooks soon enough.

"But," said Dr. Gold, "you deprive us of these useful teaching aids because you do not include the whole truth available on the subject matter covered." What he had reference to of course is the omission, in some of the literature supplied with manufactured prescription products, of unfavorable reactions and side effects which the clinician and the general practitioner should take into consideration when prescribing for individual patients.

It has never seemed to us that any manufacturer had anything to lose by telling all there is known about the effects of his proprietary prescription products. Why let the physician find out the unfavorable effects of new drugs the hard way and jeopardize the lives or comfort of his patients? No one expects any drug to be perfect for administration to every patient, and the physician is entitled to a warning when contraindications are known to exist.

One of the purposes of seminars, therapeutic conferences, institutes or refresher courses for pharmacists is to provide an insight into the advantages and disadvantages of combinations and brands of drugs so that the information may be passed on to the physicians who have come to rely on the pharmacists as consultants on therapeutic products.

Not only would it be advantageous to clinicians to have complete information in the manufacturers' literature, but it would build greater confidence in this literature and in the remedies described if all manufacturers could be relied upon at all times to present the whole truth about their products. It is much better to have all producers accept this as a voluntary obligation than to invite further policing on the part of government agencies whose job it is to assure truthfulness in therapeutic claims.

The Weak Link in Pharmaceutical Education

STRANGELY enough, the complaint one hears most frequently about inadequacies in the teaching staffs of colleges of pharmacy is that there are not enough competent teachers of *pharmacy*. Pharmaceutical chemistry, pharmacology and pharmacognosy seem to be taken care of satisfactorily from the standpoint of teaching as well as research. But pharmacy and pharmacy administration can boast of relatively few outstanding teachers.

In earlier times pharmacy was considered the most important subject in the curriculum, and the professor of pharmacy was usually the dean. Now we have more and more nonteaching deans, and the decline in compounding and manufacturing on a small scale in the retail pharmacy makes pharmacy perhaps a less glamorous subject in the mind of the student.

There is also a tendency to subdivide teaching of pharmacy administration into accounting, merchandising, law and regulation, store management and business administration, with graduates of schools of commerce or business administration furnishing most of the teaching personnel. Too often the youngest member of the teaching staff is given the assignment to cover pharmacy administration and to take some courses in the college of business administration while he is learning how to teach the subject. This is unsatisfactory for both students and instructor.

When the American Council on Pharmaceutical Education listed pharmacy administration as one of the major categories in the pharmaceutical curriculum it was with the understanding that this department would be headed by someone experienced in the professional and industrial phases of pharmacy who could be counted upon to give experienced leadership in this field and call upon others competent to teach such sub-

(Continued on page 696)

Carbopol 934

as a *Dermatological Vehicle*

By Ruth E. Streeter, Phyllis Caver and W. Lewis Nobles

Professor Nobles, Instructor Caver and Senior Student Streeter of the University of Mississippi report they could successfully incorporate 14 commonly prescribed medicinal agents into a base prepared from Carbopol 934. Resulting ointments were smooth, homogeneous, stable and showed no tendency to develop rancidity.

Within the last year a unique water-sensitive gum of superior gel-forming properties, Carbopol 934[1] (carboxy polymethylene), has been made available. Use of this gum as a suspending agent for such substances as calamine, neocalamine and a kaolin-pectin combination has been reported (1).

In making up gels from Carbopol 934, the polymer should first be dispersed in water and then neutralized. A wide variety of alkaline materials may be used to neutralize the acid polymer. In this study sodium carbonate was used exclusively. The viscosity of the gel is largely dependent on the *p*H when this agent is used for neutralization. Nine milliequivalents of sodium carbonate per gram of Carbopol produce an almost neutral gel with maximum viscosity (2).

In the actual preparation of gels from Carbopol 934, the correct quantity of the polymeric gum may be dispersed slowly in water with the aid of high speed agitation. To this dispersion may be added an aqueous solution of the desired alkaline material with slow speed agitation. Due to the high viscosity of the gel, high speed agitation at this point would produce air entrapment and is not recommended (2).

For the preparation of dermatological vehicles using Carbopol 934 as the base, one of two procedures may be followed depending on the solubility of the material to be incorporated. These are: (a) for substances insoluble in water, the gel may be formed as indicated above and then the desired medicament may be incorporated into the base by use of a mortar and pestle or an ointment slab with the use of a spatula; (b) for soluble or semisoluble substances, the medicaments may be dissolved or suspended in water initially before the neutralization of the polymer. Upon neutralization, a uniform dispersion of the medicament automatically results concurrent with gel formation. A list of the ointments prepared is given in Table I.

As indicated in Table I, the yellow oxide of mercury ointment decolorized after preparation. Within 15 minutes after the incorporation of the yellow oxide of mercury into the base, all the yellow color had disappeared, leaving a colorless, transparent gel. An adequate explanation of this is not immediately apparent. If the mercuric oxide reacted with any free acid radicals of the polymer—as in the preparation of mercury oleate—the gel should be broken.

(Continued on page 688)

Table I—Ointments Prepared with Carbopol

Medicament	Method of Incorporation[a]	Carbopol[b] % used
Ammoniated mercury 5%	A	2
Ammoniated mercury 10%	A	1
Aureomycin 3%	B	5
Benzoic acid 12%, Salicylic acid 6%	A	5
Boric acid 10%	B[c]	5
Chrysarobin 6%	B[d]	2
Coal tar 5%	A	10
Ethyl aminobenzoate 1%	A	2
Histadyl HCl 2%	B	2
Ichthammol 10%	A	5
Iodine 4%	B[e]	5
Penicillin (1000 u./Gm. oint.)	B	5
Sulfathiazole 5%	A	5
Sulfur 10%	A	5
Yellow mercuric oxide 1%	A[f]	2

[a] Refers to methods previously described in this paper. [b] Various percentages were successfully used. Those given seem to yield the most elegant product. [c] Boric acid was dissolved in boiling water. [d] Chrysarobin was dissolved in a dilute sodium hydroxide solution. [e] Solution of iodine was facilitated by the use of potassium iodide. [f] Ointment decolorized.

[1] Supplied through the courtesy of B. F. Goodrich Chemical Company, Cleveland, Ohio.

by
Harold W. Pratt*

IS PERSONNEL YOUR PROBLEM?

Scientific selection and training of personnel will insure good employer-employee relations and professional success. Training must be specific and continuing to achieve good physician and customer relations.

RETAIL PHARMACISTS have done a good job in meeting the employee problem—that is, they have done well with the material at hand. The average pharmacist-owner has apparently done a remarkable job in hiring and holding personnel without the aid of placement tests and other tools which large industry uses. But this does not mean that we cannot do better.

In this fast changing society it is becoming harder to obtain a person interested in starting at the bottom in the hope of learning the business and following in the boss's footsteps. Many employees take work in a drugstore to tide them over until they finish their education in another field. Pharmacists should be more aggressive in reaching out for young people who have the personality traits and the capability to make good in our profession.

The School Counselor

How many take time to visit the high school student counselor? Most high schools in our country have capable counselors who guide students into fields where they are most apt to succeed. Other professions and trades have told their story but pharmacy and its opportunities have rarely been presented.

Make an appointment with the local vocational guidance counselor and sell him on the possibilities in pharmacy. While you are there describe the kind of boy or girl you are looking for in your store. The students' personnel records and their grades on aptitude tests will help you find the type of employee who is most likely to be worth your investment in hiring and training.

The retail pharmacy must have well-adjusted personnel who can stand up under the pressure required in providing services to all kinds of people. Emotionally mature, industrious, and basically stable persons with strong motivation are required. Many qualities are essential in a prospective pharmacy employee.

It must be remembered that one hires a whole man—not just his working skill. It is not enough that he be well educated, adequately trained and experienced. If he is unstable, lazy or a malcontent he will be a poor employee and a poor representative of our profession.

Non-Pharmacist Personnel

The pharmacist must select employees not destined to become pharmacists just as carefully. Some feel that if we surround ourselves with good potential pharmacist material we will have an excellent staff even though many of them never become pharmacists but may remain as good merchandisers. We also know that many who do go to pharmacy school stay on as teachers or researchers or perhaps become detail men for a pharmaceutical house. All these people are important. The more care we use in selecting store employees the better personnel we will have throughout the profession.

Personnel Training

Good selection should give us employees with force of character and leadership with which to assume the responsibilities of the profession. They will have respect for and be proud of pharmacy and show it in their personal appearance and in a considerate approach. Such an employee will inspire confidence and create satis-

* Director of Professional Services, Walgreen Drug Stores, Chicago, Ill.

faction not only in the store but in the profession as a whole.

We must consider ourselves as well, since the first impression is often a lasting one. If our own actions are not above reproach we may ruin an employee before he gets a good start. Make clear an employee's specific duties, whether it be delivery, stockroom, soda fountain, drug counter, or pharmacist. The delivery boy, for instance, must be told that he is the outside representative. His personal appearance is important because it reflects directly on the reputation of the store. His manners in dealing with a customer are important in building public relations based on confidence and good will. He should be told exactly how to handle cash collections and make change. He must be given other duties when not busy with deliveries. He must be coached on prospects for advancement and the outlook for his future in pharmacy.

Check the outline with him by discussing his appearance, customers' comments on his services, his initiative and his accomplishments. This might be done daily during his first week on the job and thereafter. on pay days.

If we seem to have placed stress on a seemingly unimportant employee, remember there is no unimportant employee in your store. The same type of basic training is required for all. It is important to have set policies to guide operations. Reduce them to writing and give a copy of the instructions to each new employee to take home and study. You may be surprised at the effect on public acceptance of your business and the good relations which will result.

The New Pharmacist

The next step is to elaborate on each of the duties, explaining the right and wrong way to do a particular job. We firmly believe this should be written so that following the explanation an employee can be given a copy to review. Too often we assume that methods we have learned through years of experience will come right along with a new employee the day he arrives. They don't. But you can hasten the day they will if you follow these three steps: proper selection; personnel training; and discussion of job responsibility.

Of course there is much more to training employees. The new pharmacist out of college may be expert in pharmacy and know more about chemistry and pharmacology than you, the employer, but he may not know how to build good will. He may look down on his customers and may even be curt to the old lady who wants a dangerous drug prescription refilled. This attitude may not be intended, but it is often difficult for a recent college graduate to overcome the urge to be important. He may find it difficult to understand people and may become impatient easily.

The only way you can instill courtesy and patience in a new employee is to set a careful example yourself. Tell him that years of custom gave way in a short time because of changes in types of medication. People who have been accustomed to buying drugs except narcotics without being questioned, find it hard to understand the new restrictions placed on pharmacists. Show him how to explain the high cost of prescriptions to the customer. He must demonstrate that an expensive prescription today may replace three or four trips to the doctor and several cheaper prescriptions, and may even save time that might have been lost from work. As pharmacists we are too apt to take these changes for granted.

Servicing the Physician

Dynamic changes in the medical world today provide another challenge in training new pharmacists. New methods of diagnosis and treatment hold a tremendous problem for the practicing physician today. It is difficult for the physician to keep abreast of new drugs and their uses. Pharmacists, therefore, must meet the challenge and the corresponding opportunity to set up the prescription department as a clearing house for product information for physicians in the neighborhood. The new pharmacist must accept this responsibility. He can be encouraged by having a system readily available to provide information at a moment's notice. It doesn't matter whether it is a card index, loose leaf catalogue or a simple file; the main thing is that it be kept up to date.

There is no single or simple way by which this material can be obtained. We must train our pharmacists to be alert for information in trade magazines and in manufacturers' literature. He must work closely with detail men, use information in medical journals and attend refresher courses. He must also realize the importance of the medical sections of lay publications because of their wide interest to customers. He should also be trained to evaluate sales potentials of new products for inventory purposes.

To sum it up, then, if we are to continue the gains we have made in pharmacy we must take serious steps to influence the right kind of people to join us and use our influence to discourage other types from entering.

The Medico-legal Aspects of

Scientific Experiments on

HUMAN BEINGS

Irving Ladimer*

Medical research involving use of human beings as subjects in developing novel methods and new drugs differs from general practice and requires special legal and ethical standards. Such principles based on codes, practices of reputable scientists and pertinent statutes are suggested herein as guides to full and proper investigation.

MEDICAL RESEARCHERS eventually find it both necessary and proper to test their scientific hypotheses on man himself. Development of standard diagnosis and treatment calls first for trial of novel methods, but every innovation intended to benefit mankind must finally be tried on a human being—perhaps on thousands, as witness the antipolio vaccine trials—before it may be considered acceptable practice or procedure. Properly conducted experimentation by qualified scientists must therefore be considered an integral branch of biological-medical science, but it does not thereby become customary medical practice.

In the development of new drugs particularly, the clinical trial is the ultimate proof of the usefulness and reliability of the product. Such trials require use of people, after animal experimentation, primarily as *subjects* of research investigation, even though they may also be patients.

An appreciation of legal and ethical aspects of research on man has direct application in current proposals now being considered by cancer experts to establish chemotherapy testing stations. Here clinical evaluations of chemical compounds which show promise of inhibiting cancer growth would be scientifically controlled. An important incidental benefit might be the formulation of research rules which would distinguish proper investigation from quackery.

Human experimentation is not new. Its current great and publicized increase, however, calls for recognition of its implications—scientific, legal and ethical. Wide-scale clinical trials, unconventional military research and investigation of many dangerous substances have brought these issues to general attention (1–5).

Today all the professions seem to be reexamining their ethical standards and professional conduct. They acknowledge that, although basic principles may remain, periodic scrutiny and perhaps revision of ethical-legal guides must continue.

A recent A.M.A. Law Department memorandum and an informal account of cases (6, 7) on experimentation with new drugs and therapies illustrate use of unestablished methods in situations where proven remedies were available. The cases showed no compelling need for experimentation. No research environment was created. The courts reasonably held, under these circumstances, that the physician would be liable for the consequences of such treatment if he did not apply appropriate care and skill, failed to advise and obtain consent of his patient, or strayed too far from well trodden paths. It is important to differentiate such actions by a physician who is expected to abide by regular practice from the planned, carefully designed research now going on in many reputable institutions and establishments.

Modern Medical Research

Current research on human beings, of which the controlled clinical trial is a typical form, differs significantly from the commissions or omissions called "experimentation" in legal cases which simply typify questionable practice. "Experimentation" should be considered objectively or preferably discarded if it retains the connotation of ineptitude or misconduct. The legal issue in use of a new drug or procedure would then be an evaluation of the necessity, plan and execution of the research.

Modern medical experimentation falls into two, perhaps three, groups: (*a*) experiments

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directly intended to better the patients' condition; (*b*) experiments with healthy volunteers to establish baselines for general use, (*c*) clinical investigations in which patients under treatment for one purpose may also serve as "controls" for studies of no immediate aid to them.

Medical experiments consist essentially in deliberately inducing or altering bodily or mental function, directly or indirectly, in individuals or groups, primarily for the advancement of health, science, and human welfare. Although it may benefit the individual involved, research is mainly for elucidation and generalization. It is generally the product of a team of scientists including M.D.'s who are of course the only ones licensed to deal directly with patients.

Perhaps the essential difference between research and practice lies in attitude or motive. Investigators, according to Dr. Bean, are guided by divine discontent which sometimes suppresses the physician (8). The physician is mainly concerned with the patient's welfare; the investigator, although also responsive to this interest, is bent on solving the scientific problem.

There are other differences, particularly in a research institution or where subjects are healthy volunteers. In research, the relationship between the parties is more formal, more explicit; the researcher often pays his subject, or the latter may be given free medical care during and following the study. Exchange of information between the parties is likely to be more active, recognizing the subject's role as a participant. The degree of understanding and nature of consent must be more firm since the permission or consent which may be implied when a patient calls upon a physician cannot be easily assumed in the case of novel treatment.

The nature of the research problem further helps to distinguish it from general or special practice. Characteristically, the well developed research plan involves a new or untried method, the modified use of an established means or deliberate replication of a standard practice under controlled conditions. Subjects, unlike patients, are generally selected; whereas the general practitioner, although not legally required, usually accepts all who come, and treats their conditions, whether interesting or routine. The extreme is found in research on healthy persons. Physicians do not ordinarily practice on normal people except perhaps in health consultations.

A famous accident best illustrates the contrast: In 1825, Dr. William Beaumont, saved a French Canadian voyageur, St. Martin, who was accidentally wounded by a gunshot which penetrated to the stomach. Beaumont was unable to repair the resulting gastric fistula and instead made a plug which he pushed through to the stomach, enabling him to see its operation under various conditions. Dr. Beaumont soon realized the scientific resource at hand for studying digestion and, following a period of treatment of St. Martin as a patient, requested him to remain so that he could perform experiments. Recognizing the change in relationship Dr. Beaumont made two written contracts with St. Martin, actually hiring his former patient to serve as a subject.

The law has not set out permissible limits for research as it has for medical practice. Although many practitioners suggest that research is merely a part of good practice—and certainly observation, analysis and conservative trial is—the subject matter, the purpose and approach quite clearly indicate a different, although related activity. This is not to say that one who is qualified may not perform in both capacities, even with respect to the same patient, but he should realize his role and act accordingly, as Beaumont did.

Guiding Principles

The principles which responsible investigators may use as a guide to acceptable practice of the science of research on human beings may be derived from three sources: (*a*) codes which may be applied to this field of study; (*b*) practices employed by institutions and scientists of demonstrated responsibility; (*c*) applicable laws and regulations.

The oath of Hippocrates, fountain head of medical ethics, offers this guidance: "I will use that method of treatment which, according to my ability and judgment I consider for the benefit of my patient, and abstain from whatever is deleterious and mischievous." The Code of Ethics of the American Medical Association also makes the benefit of the patient "the supreme good." Although experimentation holds as its objective the advancement of knowledge, the scientist must consider foremost the welfare of the subject.

Perhaps the best known code specifically drawn to guide human experimentation was developed in the judgment rendered following the Nuremberg war trials of medical criminals. The ten principles set out may be summarized:

1. Voluntary consent of the subject is absolutely essential. Consent must be based on knowledge and understanding of the elements of

the study and awareness of possible consequences. The duty of ascertaining the quality of consent rests on the individual scientist and cannot be delegated.

2. The experiment should seek some benefit to society unobtainable by any other method.

3. The experiment should be designed and based on prior animal study, the natural history of the disease or problem, and other data so that anticipated results may justify the action taken.

4. It should be conducted to avoid unnecessary physical and mental suffering.

5. No experiment should be undertaken where there is reason to believe that death or disability will occur, except perhaps where the experimenter may also serve as his own subject.

6. The degree of risk should never exceed that which the importance of the problem warrants.

7. There should be preparation and adequate facilities to protect the subject against even remote possibility of injury, disability or death.

8. Only scientifically qualified persons, excercising a high degree of skill and care, should conduct experiments on human beings.

9. The subject should be permitted to end the experiment whenever he reaches a mental or physical state in which its continuation seems to him impossible.

10. The investigator must be prepared to end the experiment if he has reason to believe that its continuation is likely to result in injury, disability or death (9).

Some commentators emphasize the social necessity for experimentation—that there be some common benefit not obtainable by other means. Also, stress is laid on the procedure that research proposals must first be reviewed by a group of impartial colleagues not concerned with the outcome of the research.

The Judicial Council of the A.M.A. has compressed the principles into three requirements: voluntary consent; prior laboratory and animal study; performance with proper medical protection and management (10).

Pope Pius XII three years ago, addressing an international scientific meeting on "The Moral Limits of Medical Research and Treatment," significantly did not reject research on the living man, recognizing that such a ban would paralyze all serious medical investigation. He warned, however, that medicine, like other fields, must operate within higher moral bounds. Where other means have failed to help and the patient consents to a procedure which, though dangerous, has appreciable chance of success, its use is licit. But this way of acting is not to be upheld in normal cases (11).

There is evidently a wide area of agreement, sufficient for reference in any legal process, concerning the acceptable bases for deciding on and performing research.

Respected practice in this field may be illustrated by the National Institutes of Health procedure: projects involving deviation from accepted medical methods or unusual hazards are presented in writing to a Clinical Research Committee. Consent is obtained from subjects and final approval from the Center's Medical Board and the NIH Director.

There are no statutes directly governing research but it may be noted that the New York City Department of Hospitals, by general order, requires prior review and approval of research and limits studies to those designed to benefit the patient (12).

Standards for Research

Research should be planned, then reviewed by a competent group before undertaken on patients or subjects. Consideration of the proposal should include at least (*a*) determination of the importance and necessity of the particular research for disease control and improvement of health in relation to the risk involved; (*b*) assurance of the scientific basis of the investigation, indicating that the results sought may reasonably be expected and cannot otherwise be obtained; (*c*) decision that approved procedures are employed; (*d*) determination that all known measures for protection have been taken, including agreement to halt the investigation if medically indicated.

These checks should further insure that, before and during the actual investigation, participation by any patient or subject shall be purely voluntary, based on an informed understanding appropriate to his condition and comprehension.

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Changing Aspects in Pharmaceutical Practice — *Viewed Internationally*

by Dr. Viktor Hauser

The scope of Pharmacy's economic problems is revealed in this final installment of Dr. Hauser's keen analysis. The first installment appeared in the October issue.

In an article by Vice President John N McDonnell of Schering Corp., published in the *American Journal of Pharmacy*, I learned the following important facts:

A committee of the Pennsylvania Pharmaceutical Association undertook to apply itself to the study of a wide variety of problems. The most noteworthy of these problems are: The question of the high discounts allowed; competition between the hospital dispensaries and public pharmacies; and, in particular, the substitution without the knowledge of the doctor of a prescribed medicine by a similar medicine of another firm. This is an ethical problem, and it is established that under no circumstances can the pharmacist be considered guilty of an action which can be described as fraudulent imitation or false pretense. The article also deals with the price of patent medicines and the question of price reductions to doctors. It is suggested that casual sales should be effected at the minimum selling price, but that doctors should be granted a 25% reduction on all medicinal products. We see that here too it would seem necessary to make an attempt to find a uniform solution, especially on the question of allowing reductions, since this problem is surely acute not only in America.

I have already mentioned that quite different conditions exist in Yugoslavia; however, I should like briefly to bring to your attention some of the information contained in the report made by the General Secretary of the Union of Pharmaceutical Associations, Dr. Mokranjac.

The organization of the pharmaceutical service in Yugoslavia includes training, the pharmacy premises, the manufacture of medicines, the institute for the control of medicinal research and medicaments and the laboratories for analytical work and medicinal herbs. In Yugoslavia the term "pharmaceutical service" is used to mean the work of the pharmacist in the manufacture and distribution of medicaments in the shop, as well as the work of pharmacists in the services of the various branches mentioned above.

The pharmacies are brought into being by the local authorities, the social or economic organizations (Red Cross, the large mining undertakings, etc.). The general administration of the pharmacy is in the hands of an administrative board, the members of which are elected from among the inhabitants living in the vicinity of the pharmacy. On the board there is also a representative of the National Insurance and a representative of the employees of the pharmacy.

In the large towns in Yugoslavia the tendency is to build large pharmacies. One such "dispensing center" in Zagreb for example, employs 140 people, of whom 70 are qualified pharmacists. The medicaments are sold in the pharmacy on the basis of prescriptions issued by private or panel doctors, but they can also be obtained directly by the patient. In general, pharmacies are under the control of public control offices and the medicinal experimental stations.

In Yugoslavia there are 7 pharmacists' associations and 90% of the pharmacists are active members thereof. The main task of these associations is the improvement of the skill of the members, and for this purpose continual courses are arranged. These associations do not occupy themselves with the economic welfare of their members, since all pharmacists belong to the trade union of workers in the Health Service.

I received from the Pharmaceutical Association of Israel a comment which I think is important enough to be communicated to you. It reads: "Our organization in Israel is continuously struggling to improve the lot of the private pharmacist. It would be of invaluable aid to us if we could count on the moral support of the F.I.P. Our common aim should be to restore the pharmacist to his former position as the exclusive purveyor of medicines, not only for human beings but also for veterinary purposes. The extreme development we are experiencing here in our country is also the trend which is noticeable in other countries. If this development is not checked, our profession will be ruined."

In concluding the purely economic part of my report, I should like now to deal with the question of supplying medicaments outside the pharmacy—that is, by sickness benefit societies, outpatient departments, medical dispensaries, grocers and other shops.

I should first like to touch upon the question of sickness benefit societies, pointing out that in

many countries these societies are successfully striving to limit the scope of the pharmacist. As you know, there is an international association which by the mutual exchange of ideas and experience is aiming at the realization of the above plan in all countries in the world. In this connection I should like to bring to your attention some of the information contained in the reports received.

The Fédération des Syndicats Pharmaceutiques de France writes that the greatest problem in France at the moment is the relationship between the pharmacist and national insurance (state organization) and the association of the mutual insurance societies (private organization). The national insurance organization, which has a deficit, is endeavoring to reduce the price of proprietary medicines by diminishing the admitted 33⅓% gross profit. The mutual insurance companies, by threatening to set up their own insurance pharmacies, are endeavoring to obtain a reduction in the prices which have been laid down by law

In Luxembourg, too, sickness benefit societies and similar organizations are trying to reduce the scope of the pharmacist.

From Portugal we have received a report that societies and similar organizations have an adverse influence on the economic position of the pharmacy because they are obtaining pharmaceutical products direct from the laboratories, opening up shops and supplying their members through such shops.

In Austria, as has already been mentioned, the societies succeeded this year in opening their first pharmacy. As is done in other countries, medicaments are also supplied direct to the patients by the societies and out-patient departments.

Pressing Problems

As you can see from the few examples given, the sickness benefit societies are striving to widen their sphere of influence, and if we cannot find the answer to this problem, pharmacists in other lands will also be wiped out of existence by the sickness societies.

As regards the question of the medical dispensaries run by doctors in their surgeries, it is of no importance in 3 countries, but it must be emphasized again that such arrangements are of great danger to us pharmacists. The problem of the sale of medicines in shops other than pharmacies is particularly urgent in Germany, Luxembourg, Switzerland and Austria since in all these countries certain shops are endeavoring to obtain the right to sell these articles freely in their establishments.

A special problem which must affect most countries is that of proprietary medicines. I shall only select a few examples at random: In Portugal, for example, pharmacists are at present forbidden to make up proprietary medicines in their shops, whereas laboratories for the production of proprietary medicines, which may be owned by any kind of undertaking, can produce proprietary brands to their hearts' content.

Proprietary Medicine Situation

In Germany the position in respect of the industrial production of medicinal proprietary articles is characterized by the fact that anybody can produce them without special qualifications. Since there is no state control, there are many proprietary brands of inferior quality on the market, the quantity in the Federal Republic being estimated at something like 25,000–30,000. On the instigation of Dr. Hans Meyer, the chairman of the Trade Union of the Professional Associations of German Chemists, a research institute—the German Medicinal Research Center—was set up in Munich.

In France the pharmacist is increasingly becoming nothing more than the seller and distributor of proprietary medicines. The turnover from the sale of these proprietary brands is roughly 70% of the total turnover. The number of proprietary drugs is increasing at an alarming rate. I should like to bring to your attention the remarks made by our colleague M. Martinot, vice president of the French Chamber of Dispensing Chemists, on this subject because in my opinion they are of importance not only to France but to all the other countries of the world. They read: "I beg my fellow manufacturers to understand us, for it is to them that I am addressing these words. Do you really believe that the reserves of a normal pharmacy will be able to bear much longer the costs that your inventive spirit has placed on it? Nothing can justify the giddy increase of proprietary medicines which are simply put together and packed in a package for sale especially to children, adults, babies, old people, confined mothers, intellectuals or infantry soldiers." The author writes: "Enough, enough! We appeal to the manufacturers not to turn us into revolutionaries; we assure you that the time is now ripe to think about it."

I believe that there is no more comment to make; this article should make us aware of the most urgent problem in all countries, namely, how a check is to be placed on this proprietary medicine inflation. In this connection I should like to deal with the suggestion put forward by

Norway. This is to make a report discussing the future development of the private pharmacy and the changes which would have to be made in pharmaceutical training.

In my view, the advance of science cannot be held up; nobody would think of refusing proprietary drugs on scientific grounds. What, however, is the good of more and more intensive training of students if later they are to be condemned to the distribution of ready-made products, unable to make use of the knowledge they have gained, because in practice real practical pharmacy is continuously receding into the background. We pharmacists must find a way of halting the danger of a further increase in proprietary drugs—which are so often the same thing under a different name.

In this connection I should like to mention a very interesting article about the financial position of pharmacists in Canada appearing in the *Canadian Pharmaceutical Journal* and showing just how difficult it is for a pharmacy to exist in some countries. From the various statistics given for the year 1953 it would appear that the net profit of the pharmacists there fell from 6.81% in 1952 to 4.96% in 1953, and the *Pharmaceutical Journal* talks of a complete collapse in receipts for this year.

Thus, in my opinion, it follows from what has been said above that two ways are open for pharmacists. Either we must unite to call a halt to the present encroachment on our preserves by the institutions mentioned above and to the victorious march of proprietary medicines, or else we must renounce the traditional appearance of our shops and the academic honor due to a dispensing chemist and, as has already happened in many countries, look for a profitable sideline and turn our shops, which were so highly regarded in the past, into general stores.

At the meeting of the Council of the F.I.P. last year in Brussels, President Tramasure said it was impossible to discuss with the W.H.O. the resolution passed at the last general meeting in Paris in 1953 about the question of sickness benefit societies. I believe that the situation is still the same today. It would be a very good thing if I were mistaken. If I am not, then it is my opinion that the W.H.O. must occupy itself with the question of the pharmacist since these are exactly like doctors, dentists and the other professions working for the well-being of mankind and occupying such responsible positions. We can no longer tolerate having our profession regarded as of secondary importance or having it completely ignored. With the creation of an International Pharmacopoeia and the treatment of scientific questions in pharmaceutical fields, no great progress can be made in the future if our professional status is to undergo economic and ethical decay, more slowly in one country and more quickly in another.

In Brussels, Mr. Hudson maintained that the majority of our problems begin on a professional level and are not economic in origin, the economic position of the pharmacist being but the consequence of a professional sickness. I am in complete agreement with Mr. Hudson and am of the opinion that the name of this sickness is "lethargy." In my view, we pharmacists cling too firmly to tradition, we are conscientious, industrious and silent workers; but in my opinion we are not inspired by the spirit of the age which has unfortunately taken root in every form of life and in almost every country and is called the struggle for existence. If we pharmacists do not gird our loins, close our ranks still more and defend ourselves against the innumerable attacks and attempts aimed at wiping us out of existence, we shall sooner or later be destroyed.

Pharmacy's Light Is Hidden

Finally, I should like to mention a mistake of which I believe that most pharmacists are guilty: they hide their light under a bushel. We are now living in an age where everybody tries to get himself talked about; where everyone who cannot catch the public eye soon disappears into oblivion and is quickly forgotten in this age of hustle. I know well that advertising is not compatible with our profession, is not the thing for our shops and our responsible work. Nevertheless, we shall have to occupy ourselves with this question because we cannot tolerate for long that our profession should be forgotten by the public and that our work should be presented in a false light. If this happens, as it very often does, then, when political issues are decided and new laws drafted, the interests of our profession will be overlooked. A discreet form of advertising in accordance with our status should be one of the main weapons in our hands today in the struggle for economic existence. The setting up of advertising and press centers within the framework of the national associations of our profession would be a certain means of keeping the public informed—to our best interest. It would also be one of the tasks of the Economic Committee set up by the F.I.P. to deal with such questions and to work out directions for advertising and press campaigns which are in accordance with our tradition yet comply with the requirements of the present day.

I have given a short account of conditions in the pharmacies of 21 countries, have mentioned the effect of sickness benefit societies on the position of the pharmacy, have given you a broad picture of the dangers threatening us, and now I should like to deal with the most pressing problems.

1. The problem of the ascendancy of proprietary drugs;
2. The question of the most effective way of checking the attempts of the sickness benefit societies to limit the scope of the pharmacists' activities and market;
3. The question of the sale of medicaments by sickness benefit societies, out-patient departments, manufacturers and shops;
4. The question of sales limitation as between pharmacist or chemist and druggist;
5. The question of medical and veterinary home dispensaries;
6. The question of discounts allowed to doctors, hospitals, etc.

I am well aware that some of these problems must be settled in the individual countries, but I am also of the opinion that the worldwide organization of the F.I.P. should also mediate in these questions. On the occasion of the session of the Council, President Sir Hugh Linstead was of the same opinion and maintained that the way in which the F.I.P. should be involved in dealing with these questions would have to be decided in the general meeting.

The original plan to set up special committees for each special question does not, in my opinion, offer much hope of success. For this reason the Sickness Benefit Society Committee was enlarged in Brussels by the inclusion of a few more members and was named the Committee for the Organization of General Pharmaceutical Practice. I am of the opinion that there are only two ways of dealing with economic questions and questions of general pharmaceutical practice within the framework of the F.I.P.: either this task must be given to the already existing committee, or steps must be taken to form an economic section within the framework of the F.I.P.

The path which has so far been followed has unfortunately not led to any promising goal, the probable reason for this being a financial one. The formation of an economic section inside the F.I.P. would perhaps provide a more flexible organization which would be in close contact with the office as well as with the Council. The financial question will of course be solved in this general meeting by the scheduled increase in membership fees. If the widening of the financial powers of the F.I.P. is approved by the general meeting, then it will certainly be easier for a committee or a section to work in close contact and thus have more chance of success. Whether the existing Economic Committee should be retained and possibly enlarged still further, or whether an economic section should be formed depends on the general meeting—that is, on its decisions.

As you could gather from my report, we already have a lot of material relating to the financial position in 21 countries, and the committee or the section must now obtain some idea of the organizing questions in the individual countries.

As I have already mentioned, the individual problems can only be solved in the countries themselves, whether they are questions of economics, organization, ethics, etc., or problems of training young pharmacists. It would, however, be the task of the committee or section to give advice and hints based on the experience gained in other countries on how these problems should be handled. You will agree with me, when I say that it is essential in discussing economic and other problems and particularly in defending our existence against threatened attacks, that we should be able to obtain help and assistance from the tried and proved organization and at the same time have the possibility of bringing in the W.H.O.

The Fight for Survival

I hope that in this report of mine dealing in more or less detail with all economic and other questions, that I have shown you that we pharmacists or dispensing chemists must fight very hard in almost every country in the world for our very existence and that we must take care not to lose any more of the substance of our sphere of activity. The pharmacist or dispensing chemist, who in modern times undergoes a period of most intensive training in scientific fields, must not be degraded to the level of a mere shopkeeper but must be what our forerunners always were—the defenders of the people's health.

If we take steps in good time and with the help of the F.I.P. ensure that the pharmacy shall remain a vital institution in the health service of the country, then the utmost must be done to maintain the scientific level of this institution and not surrender the pharmacy to economic and ethical ruin.

Should we succeed in this task by means of the interchange of ideas and collaboration, we shall be able to face the future with more confidence than is the case today.

Are Cash Discounts NET PROFITS?

The author, who teaches Pharmacy Administration at Purdue University, discusses methods of handling cash discounts—*a significant test of profit or loss.*

by Robert V. Evanson

ACCURATE and systematic record keeping alone can tell the retail pharmacist whether he is operating at a profit or loss at any given time. One of the more troublesome accounting items is the interpretation of the cash discount, a method used by many pharmacists to reduce the cost of regular stock purchases.

The cash discount is remuneration from seller to buyer, rewarding the latter for the use of his money when bills are paid to the seller within a specified time in advance of the date on which payment is actually due. This concept of cash discounts is not always appreciated by wholesale and retail trade.

Discounts on Purchases

As between discounts pursuant to sales and those pursuant to purchases, the more important for the retailer is the cash discount on purchases since, in a broad sense, a retailer never gives a customer a cash discount on sales. Cash discounts received may be treated as follows: (a) By deduction as a total from *Total Purchases* to derive a *Net Purchases* item, which is corrected by the difference between beginning and ending inventory to reduce *Cost of Goods Sold.* (b) By deduction from individual invoices, with payment, entered as *Merchandise Paid for.* Correction of this item by the difference between the beginning and ending *Accounts Payable* will produce a figure approximating true net purchases. (c) By adding to net profit. This method establishes a proper relationship to money aspects rather than merchandise handling.

Since cash discounts in fact reduce the amount paid on an invoice, a theoretical approach might suggest that the cost is reduced. But these discounts are earned only by prompt payment—something not always possible. It is therefore preferable to consider the invoice price as purchase price and the cash discount, if taken, as an additional source of income. This provides a true figure of costs, profits and discounts, which can be noted directly from the statement.

Analyzing the Financial Statement

The financial statement has chief value, aside from serving as a tax report, as a reflection of business progress. It reviews the past and often suggests changes in operation and policy for the future. It should therefore provide a true report.

The effects of cash discounts on analysis of costs, gross profits and net profits can be demonstrated by using the familiar ratios which are basic to retail operations. If inventories are considered constant, the cost of goods is then synonymous with purchases in every case. The increase in cost and the decrease in net profit show parallel changes when discounts of 1%, 1.5% and 2.0% are applied on the individual order (see Table). Both gross and net profits are reduced but the amount of the reduction is added as *Other Income.*

In 1952 the average of 182 service wholesale druggists for cash discounts on sales came to

(Continued on page 691)

The Effects of Cash Discounts Upon Costs and Profits Using Standard Average Ratios

	Standard Ratios	Cost 1% C.D.[a]	Cost 1.5% C.D.	Cost 2% C.D.
Sales	100.0%	100.0%	100.0%	100.0%
Cost of Goods Sold	67.0%	67.7%	68.0%	68.3%
Gross Margin	33.0%	32.3%	32.0%	31.7%
Operating Expenses	27.0%	27.0%	27.0%	27.0%
Net Profit	6.0%	5.3%	5.0%	4.7%
Other Income	...	0.7%	1.0%	1.3%
Net Income		6.0%	6.0%	6.0%

[a] The increase in cost is obtained by considering the standard cost as 99% of the total cost (or purchases). The same procedure is followed for the 1.5% and 2% discounts using 98.5% and 98% respectively.

Investigating the Suspending Properties of

PURIFIED SAPOTE GUM

by Jack T. Bryan* & John E. Winttert

It was found that sapote gum compared favorably with acacia and tragacanth as a suspending agent. Furthermore, alcohol appears to have little or no effect in the 5 to 15% range in lotion-type preparations. The optimal *p*H range for sapote gum appeared to be from slightly acid through slightly alkaline.

Sapote gum[a] is a hard, amber, resinous exudate obtained from *Achras sapota* (*Sapotaceae*). This exudate forms after wounding the tree to get the latex, a crude form of chicle. A purification and analysis of the gum has been carried out by Anderson and Ledbetter (1). They showed that the gum was composed of 90–94% water-soluble polyuronides and 6–10% water-insoluble resin. Studies dealing with the toxicity and emulsifying properties of sapote gum have been carried out by Byrum and Dale (3). The gum proved to be of value as an emulsifying and suspending agent. No toxicity was demonstrated in rabbits, mice and rats after its intraperitoneal, intravenous and oral administration in high level single doses. It did not give rise to irritation when tested on skin and mucous membranes in rabbits, guinea pigs and humans.

Purification

In view of the previous work on sapote gum and the promise it has shown as a suspending agent, it was deemed of sufficient interest to carry out a comparative study with other suspending agents.

The method developed by Anderson and Ledbetter (1) was used with certain modifications. Twenty-five grams of crude sapote gum was dissolved in 250 cc. of water at 90°C. Stirring was necessary to effect solution. The viscous solution was cooled and filtered through muslin. The filtrate was treated with 30 cc. 5% sodium hypochlorite solution as a bleaching agent. This mixture was allowed to stand for 48 hours in the refrigerator. To the bleached solution 120 cc. of methanol was added slowly and with constant stirring. The sapote gum which precipitated was filtered off and washed with 100 cc. of methanol, then with 50 cc. of ether. After drying *in vacuo* over calcium chloride, a total of 16.6 Gm. of purified gum was obtained which represented 66.4% of the weight of crude gum. It was found that increasing the amount of methanol used in the precipitation procedure from 4 to 8 volumes did not increase the yield of precipitated gum. The purified gum obtained from the above procedure was used in all subsequent experiments.

An Ostwald viscosimeter was used for the determination of the viscosity of various percentage strengths of sapote gum solutions. The absolute viscosity of the solutions was calculated from the following formula (3): $n_1/n_2 = d_1t_1/d_2t_2$. Water was used as the standard. Table I shows the values found by this method.

Table I—Viscosity Values for Various Strengths of Sapote Gum Solutions

Concentration, %	Viscosity, cps.
0.25	2.28
0.50	5.27
1.00	20.60
1.50	30.00
2.00	50.65

The effect of *p*H on the viscosity of a 1% sapote gum solution was determined in the same manner as previously described for the viscosity deter-

* Presented to the Section on Practical Pharmacy, A.PH.A., Miami Beach Convention, May 1955.

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[a] The gum used in this investigation was obtained from Asher, Kates and Company, Lima, Peru.

minations. The *p*H adjustments were made by the addition of the required amount of either 10% HCl solution or 10% NaOH solution. This strength of alkali and acid allowed small quantities to be used in the *p*H adjustment thereby eliminating undue dilution of the gum solution. Table II shows the values found.

Table II—Viscosity Values for 1% Sapote Gum Solutions at Various *p*H

*p*H	Viscosity, cps.
1	2.12
2	2.12
3	2.46
4	5.40
5–6	17.80
7	3.42
8	2.62
9	1.90

Approximately 20 cc. of each of the above solutions of sapote gum, ranging in *p*H from 1 through 9, was placed in a 50-cc. beaker. These open beakers were exposed at room temperature (25–30°C.) for 7 days in an effort to ascertain if mold growth would occur. No mold growth developed in the beakers under the conditions existing in the laboratory.

The rate of settling of the suspension was determined by measuring the light transmission of each sample using a Fisher electrophotometer. It was found that the light transmission when plotted against concentration of the suspensions followed Beer's law. This method of comparison was based on the fact that the greater the degree of settling the greater the per cent of light transmitted through the suspension. Each sample of suspension was prepared in the same manner, i.e., 1 cc. of sample was diluted to a liter with water. The electrophotometer was equipped with a 425-B filter and water was used to standardize the machine before each measurement.

Two types of suspensions were used, one typifying a preparation for external use and the other for internal use. The following formula was used to prepare the suspension designed for internal administration:

Bismuth subcarbonate	15.0
Calcium carbonate	7.5
Magnesium carbonate	15.0
Suspending agent *q.s.*	
Distilled water *q.s.*	120.0

Four samples of the above suspension were prepared using 0.5%, 1.0%, 1.5%, and 2.0% concentrations of sapote gum as the suspending agents. Solution of the gum was effected rapidly by adding the gum in small amounts, with stirring, to 30 cc. of water. Each of the solids was mixed thoroughly in a mortar. The mucilage was added to the mixed solids and triturated until a smooth paste was formed. The remaining quantity of water was added and the entire suspension transferred to a Waring Blendor and stirred for 30 seconds, after which it was transferred to a 4-ounce prescription bottle. Samples for readings in the electrophotometer were obtained by taking 1 cc. of the suspensions from the mid-point of the prescription bottles. Each sample thus taken was diluted to 1000 cc. with water in a volumetric flask and agitated thoroughly. The readings were taken within 10 seconds after agitation. The values obtained for the various percentages of sapote gum are shown in Table III.

Table III—Logarithmic Electrophotometer Readings at Intervals

Sapote Gum Soln., %	Initial	1-day	2-day	3-day	4-day	5-day
0.5	53	31	75	16	14	14
1.0	55	31	22	22	19	17
1.5	55	36	24	24	23	22
2.0	55	37	28	22	20	18

From these values, it appeared that an optimal percentage strength for sapote gum mucilage for suspensions would be between 1.5% and 2.0%. The 2.0% strength was chosen for subsequent experiments since the viscosity would be somewhat higher than the 1.5%.

In order to compare the suspending ability of sapote gum with other suspending agents, samples of the above suspension were made using the following suspending agents: 2% tragacanth, 2% acacia, 2% sapote gum, 2% sodium carboxymethylcellulose (sodium CMC) (high viscosity), and 2% pectin. The preparation of the suspensions and the procedure for taking samples to be used in the electrophotometer were carried out in the manner previously described. Values

Table IV—Logarithmic Electrophotometer Readings

Suspending Agent, 2% w/v	Initial	8-hrs.	1-day	2-day	3-day	4-day	5-day
Acacia	57	31	19	12	7	6	5
Sapote	55	43	38	28	22	20	18
Tragacanth	48	48	43	54	64	64	52
Pectin	49	32	26	18	8	0	..
Sodium CMC	48	47	..	33	28	24	24

for these suspensions are shown in Table IV on the preceding page.

The values for tragacanth were too erratic to be of value as a comparison. This was probably due to the high concentration of the gum in the suspensions. After standing on the shelf for two weeks, these samples were tested for re-suspending qualities. Each sample was shaken as uniformly as possible for fifteen seconds, after which a sample was taken for reading in the electrophotometer and a visual observation was made. Table V indicates the results. The suspensions made with sapote and acacia had approximately the same re-suspending qualities. However, both gums appeared to be inferior to those with which they were compared.

Table V—Re-suspending Qualities

Suspending Agent	Electrophotometric Readings	Visual Observation
Acacia	68	Hard cake
Sapote	62	Hard cake
Tragacanth	44	No cake
Pectin	33	No cake
Sodium CMC	35	No cake

For the evaluation of the suspending properties of sapote gum for external preparations, the following formula was used:

Calamine	9.6
Zinc oxide	9.6
Glycerin	12.0
Suspending agent *q. s.*	
Distilled water *q.s.*	120.0

These suspensions were prepared in the same manner as the suspensions previously discussed. The following suspending agents were used: 2% acacia solution, 2% sapote gum solution, 2% tragacanth mucilage, 2% Veegum[a] suspension, and 2% sodium CMC (HV) suspension. The samples were stored in 4-ounce prescription bottles, and samples for reading in the electrophotometer were prepared in the same manner as previously discussed. A comparison of the suspending values is shown in Table VI.

Table VI—Logarithmic Electrophotometer Readings

Suspending Agent, 2% w/v	Initial	1-day	2-day	4-day	7-day
Acacia	63	54	41	25	5
Sapote	61	60	57	52	31
Tragacanth	63	66	69	70	65
Veegum	63	52	52	45	41
Sodium CMC	65	65	72	74	67

[a] Supplied by R. T. Vanderbilt Co., Inc., New York, N. Y.

The values indicated that sapote gum is a better suspending agent for this preparation than acacia. Also, it compared favorably with Veegum, but was inferior to tragacanth and sodium carboxymethylcellulose.

Alcohol or alcoholic preparations are commonly prescribed in external lotions. Therefore, it was considered desirable to ascertain the effects of alcohol in various concentrations on the above formula using sapote gum, 2%, as the suspending agent. Alcohol in the concentration of 5%, 10%, or 15% was added to the formula. Table VII shows the values. The values indicated that alcohol in the concentrations used had little or no effect on the suspending ability of sapote gum.

Table VII—Logarithmic Electrophotometer Readings

Alcohol Concentration, % v/v	Initial	1-day	2-day	4-day	7-day
5	58	65	60	49	32
10	62	59	57	54	36
15	67	63	62	55	41

In view of the drastic changes noted in the viscosity of sapote gum solution when the *p*H was altered, the following experiment was set up using the suspension designed for external administration containing 2% sapote gum. Five samples of 4 ounces each were placed in prescription bottles and each sample adjusted to a *p*H of 2, 3, 4, 5–6, 7, and 8 respectively. Aliquots of 1 cc. each prepared in the manner previously described were read in the electrophotometer. The readings are shown in Table VIII. These values showed that the optimal *p*H range for sapote gum suspensions was between 5–8.

Table VIII—Logarithmic Electrophotometer Readings

*p*H	Initial	2-day	3-day	5-day	7-day
2	61	..	53	45	33
3	61	52	..	37	27
4	70	57	..	38	24
5–6	61	57	..	52	31
7	65	..	60	45	44
8	64	..	57	49	34

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Lee H. Macdonald*

The Retailer's Role in DRUG STABILITY

We in the pharmaceutical manufacturing business recognize our responsibility of defining stability limitations for each product we market. We expend a great deal of effort in this activity and do not release products for general sale unless they comply with definite stability requirements. It occurs to us, however, that the practicing pharmacist should be aware of certain basic principles governing stability of pharmaceuticals, and it is our purpose briefly to discuss these, not with any intention of trying to shift our own responsibilities to the retail pharmacist but to share with him in understanding the problem and thereby better serve the public.

Time and Temperature

Drugs perform their useful function by chemical reaction more often than by their physical presence. This would seem to imply that they are inclined to reactivity rather than inertness. Both time and temperature enter into reactions which often result in loss of potency. Chemical engineers use a rule of thumb that the reaction rate doubles with a 10°C. rise in temperature, and we have found this to be roughly true in many stability studies. The temperature, therefore, is of first consideration in most cases. Pharmacists have long been careful to put the new stock behind the existing supply, but temperature control is less widely observed. In my father's drugstore there were steam radiators with shelves close to them. When we are evaluating accelerated stability studies, I have often thought of those radiators and what a beating they gave the drugs stored on the shelves near them. It illustrates that a pharmacy in the Northern states may be as hard on drugs as one in the South.

Perhaps the most simple pharmaceutical is a solution of sodium chloride. Even here there is a stability problem, for salt in solution will react with glass. Specially resistant glass has been developed to reduce this reaction; it is used in containers for parenteral products.

Some reactions occur in the dry state; however, solvents usually hasten the rate. We have a drug under study which loses 35% of its activity in 2 hours in water. In such a case, likelihood of a packaged solution is remote. While this is an extreme example, it is often difficult to achieve a satisfactory fluid preparation. Dry preparations may also present problems, some of which are solved by a physical separation of two mutually reactive drugs.

Some drugs handled in dry form are decomposed by traces of moisture. Some are inherently hygroscopic; sometimes it is partly due to the method of drying. When materials are spray-dried or dried from a frozen solution they are commonly hygroscopic, due to their physical structure. They must be tightly sealed and sometimes put into desiccator bottles.

When some loss during storage cannot be avoided and the drugs are safe to take in larger than usual therapeutic doses, manufacturers may put in more than the label states. This excess is called overage or flush. Such a procedure can only be used when there is no danger of overdosage. The patient will get what he needs, if the time and temperature are kept with in the storage statements on the label.

Even without a storage statement or expiration date, one is not justified in assuming a preparation to be indestructible. It seems likely that two years is the maximum time at a reasonable temperature that a pharmacist may be sure his preparations are useful. While examples can be cited against the above statement, use of this limit is reasonable in the absence of an expiration date. It must be noted that this is more important for fluid than for dry preparations.

In ointments and creams many medicaments are insoluble in the base; separation will occur when the temperature is high enough to melt the base. If a tube or jar is stored under such conditions the patient may be spreading only the ointment base. Eighty-five degrees Fahrenheit should be considered a maximum safe storage temperature unless there is a label requirement for a lower temperature.

(Please turn to page 696)

* Research Laboratories, The Upjohn Company, Kalamazoo, Mich.

Typical Days

FROM THE SECRETARY'S DIARY FOR OCTOBER, 1955

4th Today meeting with the Committee on Uniform State Pharmacy Laws of the National Drug Trade Conference in New York City, with some spirited discussion of the controversial problem dealing with distribution of packaged remedies for self-medication.

5th At noon joining Pharmacist-Rotarian Irving Tennyson of Washington and Jens Stroyberg, visiting Pharmacist-Rotarian from Denmark, at the weekly luncheon of the Washington Rotary Club as guest of the former. An interesting discussion on the ethics of pharmacy and Rotary highlighted the conversation.

6th Now attending some of the sessions of the meeting of the American Council on Education, where student enrollment and future professional manpower were subjects of some discussion, and in the late afternoon conferring with Jim Hoge, with whom we constitute a subcommittee of the Drug Trade Conference Committee now preparing a report on uniform pharmacy laws.

7th Today came the members of the Board of Canvassers, including Lester Hayman, Bill Dixon, Noel Foss, and L. M. Kantner, to count the ballots cast by A.PH.A. members in the annual election of officers and members of the Council.

8th Following completion of the work with the Board of Canvassers and preparation of the announcement of officers elected by mail ballot, adjournment to the Lafayette Hotel where pharmacist Jens Stroyberg and a member of the Danish Embassy were hosts at a cocktail party. A pleasant interchange of comment on the respective merits of pharmaceutical practice in Denmark and the U.S.

12th Most of the day preparing for the coming meeting of the Council, and in the evening a session of the Committee on International Relations, headed by Newell Stewart and Don Francke, to lay plans for the 4th Pan-American Congress of Pharmacy for approval by the Council.

14th All of yesterday and today devoted to the meeting of the A.PH.A. Council with many subjects discussed and actions taken as reported in last month's issue of THIS JOURNAL.

15th Most of the day at the headquarters building with various members of the Council calling to review actions taken on the previous day and implementing committee activities with President Heinz, Vice-Presidents Troy Daniels and George Roberts, Finance Committee Chairman Henry Gregg, Council Chairman Richards, and House of Delegates Chairman Lynch.

19th This morning appearing with representatives of the A.M.A. before the Boggs Committee which is holding hearings on proposed legislation for the regulation of distribution of barbiturates. Once more the suggestion is offered to treat barbiturate regulation on the same basis as narcotics, which is unnecessary. In the afternoon another conference with Jim Hoge on uniform state pharmacy legislation.

21st Yesterday and today spending much time with the Committee on National Formulary meeting here to get revision activities under way for N.F. XI. Also a meeting with Wisconsin A.PH.A. Secretary Jennings Murphy to discuss proposals of the Secretaries' Conference in dealing with physician-owned pharmacies.

27th Today addressing a convocation of the student body of the Philadelphia College of Pharmacy and Science in the auditorium of the College and telling them something of the effect of dereliction on the part of a very few members of the profession on the body pharmaceutic as a whole.

29th Today joining representatives of the 17 A.PH.A. student branches in Districts 1 and 2 who gathered at Howard University for interesting discussions, closing with the annual dinner on the Howard University campus where we spoke on responsibilities of future members of the profession to their colleagues.

31st Yesterday meeting W. K. Fitch, editor of the *Pharmaceutical Journal of Great Britain*, who is here on a short tour of eastern cities in the interests of British publications, and showing him something of Washington and our headquarters building. Later in the day to meet with members of District No. 2 colleges and boards of pharmacy gathered here for their annual meeting, and today discussing with them whether regulation of the practice of pharmacy should be centralized or decentralized.

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WARNER-CHILCOTT

Carbopol 934

• • • • • • • • • • • • • *from page 671*

This was not observed. The resulting colorless ointment had excellent gel characteristics.

In every case the preparations were easily compounded, elegant in appearance and stable at room temperature throughout the test period of 90 days. When these ointments, or creams, are applied to the skin they rub in well and do not leave a greasy appearance or sticky feel. They are easily removed from the hands by washing with soap and water.

Release of Medication

The rate of diffusion of iodine, sulfathiazole, and benzoic and salicylic acids from a Carbopol base was compared with the rate of release of the same medicaments from a suitable standard.

Diffusion of Iodine. Following Plein's modification (3) of the procedure of Lockie and Sprowls (4), an agar gel containing 4 Gm. of Bacto-Agar (Difco), 0.1 Gm. of soluble starch and 100 cc. of Ringer's solution was prepared and poured into test tubes 150 mm. in length. After the agar had completely solidified, approximately 2 cc. of the ointment to be tested was superimposed on the starch gel. The diffusion rate was determined by measuring the width of the purple band formed by the starch-iodine reaction at intervals of 1, 3, 6, 9, 18 and 24 hours for the first day, and every 24 hours thereafter for the next five days. An aqueous solution containing 4% iodine and 4% potassium iodide was superimposed on a starch-agar gel to serve as a control. The rate of diffusion of the iodine from the Carbopol base and from the control sample were nearly the same. Quantitatively, no significant difference in the diffusion rate was noted between the control and the test sample.

Diffusion of Benzoic and Salicylic Acids. Whitfield's ointment was the second ointment selected for diffusion tests. A gel consisting of 4 Gm. of Bacto-Agar (Difco), 0.2 cc. of ferric chloride solution N.F. and 100 cc. of Ringer's solution was prepared. The procedure for conducting the test was the same as for the iodine test. The rate of diffusion of the acids from the ointment prepared using the Carbopol base was compared with that from a sample prepared according to the N.F. monograph for Whitfield's ointment. Once again, over the entire 5-day observation period no significant difference could be detected in the rates of diffusion of these samples as measured by the width of the zone of well-defined violet color.

Diffusion of Sulfathiazole. A gel containing Ehrlich's reagent 5% was prepared according to the method of Levy and Huyck (5). A 5% aqueous solution of sodium sulfathiazole was used as a control. The procedure utilized in the test was essentially that described in connection with the iodine ointment above. Ehrlich's reagent produces a bright yellow color with sulfathiazole, and the width of the yellow band may be used as a measure of the rate of diffusion. In this case, the control sample demonstrated a slightly greater rate of diffusion than did the ointment prepared utilizing the Carbopol base.

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(3) Plein, J. B., and Plein, E. M., THIS JOURNAL, *Sci. Ed.*, **42**, 79(1953).
(4) Lockie, L. D., and Sprowls, J. B., *ibid.*, **38**, 222(1949).
(5) Levy, B., and Huyck, C., *ibid.*, **38**, 611(1949).

New N.A.R.D. Officers and Executive Committee

The National Association of Retail Druggists held its 57th annual convention in Atlantic City during the week of October 16. President John B. Heinz of the AMERICAN PHARMACEUTICAL ASSOCIATION extended greetings from the A.PH.A. at one of the sessions.

The resolutions adopted by the convention covered a wide range of subjects dealing largely with the economic problems of pharmacy. The convention was presided over by Mr. G. M. Eisele of Hot Springs, Ark. The following officers were elected to serve the Association in the coming year:

President, John J. McKeighan, Flint, Mich.; **1st Vice President,** Frank Lobraico, Indianapolis, Ind.; **2nd Vice President,** Carl Johnson, Chicago, Ill.; **3rd Vice President,** John E. Cusick, Fall River, Mass.; **4th Vice President,** L. J. Dueker, St. Louis, Mo.; **5th Vice President,** Louis Stritzler, Atlantic City, N.J.; **Secretary,** John W. Dargavel, Chicago, Ill.; **Treasurer,** Thomas Sharp, Nashville, Tenn.

Executive Committee: Charles R. Seward, Pasadena, Calif., chairman; John W. Dargavel, Chicago, Ill.; John J. McKeighan, Flint, Mich.; H. E. Henderson, Seattle, Wash.; Willard B. Simmons, Texarkana, Tex.; Roger Lusby, Washington, D.C.; Ralph R. Rooke, Richmond, Va. (renamed to a 3-year term); Bert C. Corgan, Denver, Colo. (advanced from the office of treasurer).

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Records

New Life Member

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ALABAMA

Whiddon, Edward L., Birmingham

ARIZONA

Hodges, George H., Eloy

ARKANSAS

Baker, Linus T., Fayetteville

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McCarthy, Daniel V., Mill Valley
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Palmer, George R., Fresno
Proctor, David W., Fresno
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Satterberg, Gordon R., Kingsburg
Thompson, John E., Fresno
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Yee, Peter C., Fresno

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Pankau, Ronald J., Park Ridge
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Deceased Members

Butler, Wanda, Big Rapids, Mich.
Gardner, R. L., Columbia, La., June 28, 1955
Ignelzi, A. Jerry, Coral Gables, Fla., Sept. 5, 1955
Jirasek, Vladimir L., Harbor Beach, Mich., Mar. 1955
Kelly, John E., Utica, N.Y., Aug. 18, 1955
King, Grover C., Jr., Tullahoma, Tex., Sept. 17, 1955
Phillips, Lawrence A., Hazelcrest, Ill., June 17, 1955
Thomas, Charles W., Jr., Gainesville, Fla., Aug. 30, 1955
Valley, Charles J., Pickens, S.C., April 1, 1955
Zurlo, Joenette M., Washington, D.C., Sept. 16, 1955

Cash Discounts

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about 2.5% of gross sales, consisting mainly of drugstore purchases. This figure includes other non-labeled discounts as well as discounts to other wholesalers so that it is unlikely that the retailer's cash discounts approximate more than 2% of his purchases. At this value the difference between true purchases and discounted purchases is 1.3% of sales at retail for 2% of purchases at cost (see Table).

A net profit, stated to be 6%, is therefore really a net operating profit of only 4.7% plus cash discounts of 1.3%. The latter represents an addition to net profit of 27.6% of the earned profit, or an amount equal to 21.7% of total net income.

If a store does a $100,000 volume of business with an investment of $25,000, which is normal, the 24.0% return on the basis of the standard data is reduced to an 18.8% return for the corrected data for the net profit item only. If the standard ratios are changed by raising the cost to 70.0%, which is not uncommon, the net profit on operation is reduced from 3.0% to 1.6% of sales. On this basis, the net income of 3.0% consists of 46.7% cash discounts and 53.3% actual net profit.

Economic Significance

On the surface, handling of discounts appears to present no problem, but they are extremely important because they can cause an overstatement of gross and net profit. Every retail store which produces a net profit of 2% or less from a discounted cost figure approaches marginal operation or actual loss.

Second, use of cash discounts permits a padding of profit. When discounts are covered by being lost or hidden in the *Cost of Goods Sold* section, the owner believes he enjoys a net profit from sale of goods which in fact does not exist. A true picture would warn him that his operating methods or buying practices need immediate attention.

A third consideration involves analysis of buying and selling transactions. Purchase and sale of goods leads to net profits on sales, but purchase of goods, regardless of sale, leads to income from cash discounts for prompt payment. It is then difficult to obtain a percentage ratio to sales for such cash income when no sales have occurred.

Finally, proper recording of discounts can assist in the production of correct statistical data for the drug trade. This information is particularly applicable to retail trade since these figures are involved in many analyses undertaken by university pharmacy administration departments. Economic research demands that fundamental procedures and principles be constant or at least rectifiable so that they can be properly compared. Today retail research data based on profit and loss statements are not consistent in use or terminology and frequently such data are not rectifiable because of the hidden factors which have been noted.

Conclusions and Suggestions

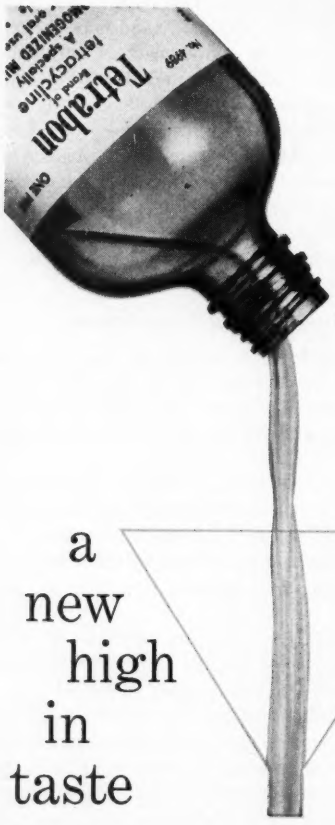
- Cash discounts are not related to purchase or sale of merchandise but are awarded for prompt payment. As such, they fall into an extra-income category the same way as miscellaneous income of a specific nature.
- Divergent methods used in determining economic data based on profit and loss statements result in research information subject to error, particularly at the retail level where many owners fail to employ professional guidance for accounting.
- Corrective action can be taken at the retail level to assure greater uniformity by better instruction; by discussions of proper procedures and methods of analysis under auspices of national, state and local organizations available to those now in retail practice; and by analysis of data from research agencies in such a way as to emphasize correct sequence and importance of each of the items in the financial statement.

U.S.P. XV Admissions by Supplement

In keeping with the policy of continuous revision, the U.S.P. Subcommittee on Scope has approved for U.S.P. XV admission monographs on Chlorpromazine Hydrochloride and Chlorpromazine Hydrochloride Tablets, Reserpine and Reserpine Tablets, and Torula Yeast, to be included in the First U.S.P. XV Supplement scheduled for release this spring.

Torula Yeast meets the standards for protein and vitamin content which have been in force for some time for U.S.P. Dried Yeast. It gives promise of being an important and economical source of protein for patients recovering from the so-called wasting diseases.

In accordance with U.S.P. policy, the First Supplement will be distributed without charge to all registered holders of U.S.P. XV who have returned the Supplements postcard supplied with each copy.



NOW! 2 new *readymix*

of Pfizerlisc

a new high in taste

Pfizer—discoverer of tetracycline—sets new standards of patient acceptability with taste-tempting, ready-mixed liquid forms of this outstanding broad-spectrum antibiotic.

new TETRAB

Brand of tetracycline

new TETRAB

Brand of tetracycline hydrochloride with vitamins

vitamin-fortified

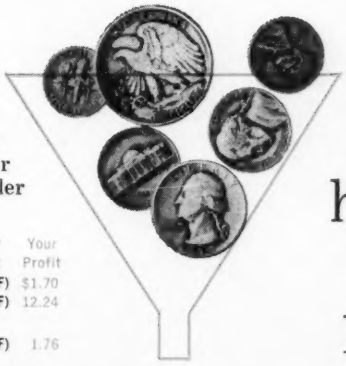
* Trademark
† Trademark for Pfizer-originated, vitamin-fortified antibiotics
(F.) Minimum wholesale selling prices in states having Fair Trade Laws. In other states, such prices constitute suggested price o

dymixed dosage forms

zediscovered tetracycline

These new *tops-in-taste* liquid forms of the pre-eminent broad-spectrum antibiotic insure a stream of Rx profits pouring into your register. Phone your wholesaler today for adequate stocks.

	Product Number	Suggested Retail	Your Cost	Your Profit
TETRABON				
2 ounce bottle	4987	$4.25	$2.55(F)	$1.70
1 pint bottle	4989	30.60	18.36(F)	12.24
TETRABON SF				
2 ounce bottle	4981	4.40	2.64(F)	1.76



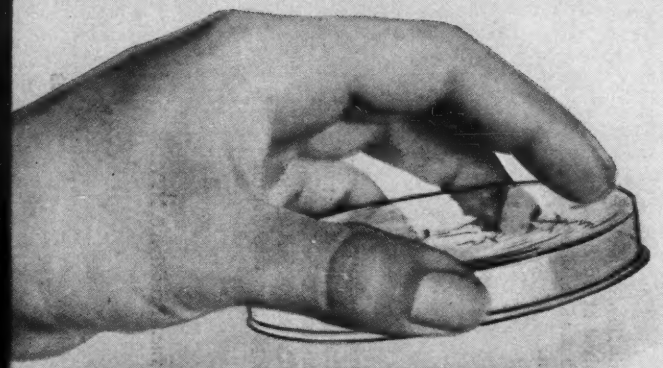
a new high in profits

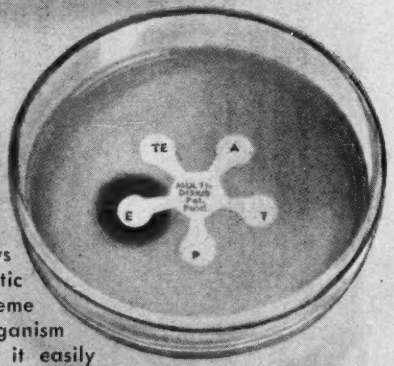
ABON* Palate-pleasing, unusual fruit flavor, specially homogenized mixture standardized at Pfizer Laboratories. 125 mg. of tetracycline per 5 cc. teaspoonful. Bottles of 2 ounces and 1 pint.

ABON SF† Fruit-mint flavored, sugar-free, specially homogenized mixture prepared at Pfizer Laboratories and fortified with adequate quantities of B complex and vitamins C and K for nutritional support during stress. 125 mg. of tetracycline per 5 cc. teaspoonful. Bottles of 2 ounces.

discoverer of tetracycline

Pfizer PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.





DESTROYS ENTEROCOCCI

This blood agar plate shows a strain of *beta* hemolytic enterococcus. Note extreme sensitivity of this organism to ERYTHROCIN—yet it easily resists the other antibiotics. Additional data: A study[1] involving 202 enterococcic strains showed sensitivity to erythromycin in 99.4% of *alpha* hemolytic strains and 94.3% of *beta* hemolytic strains.

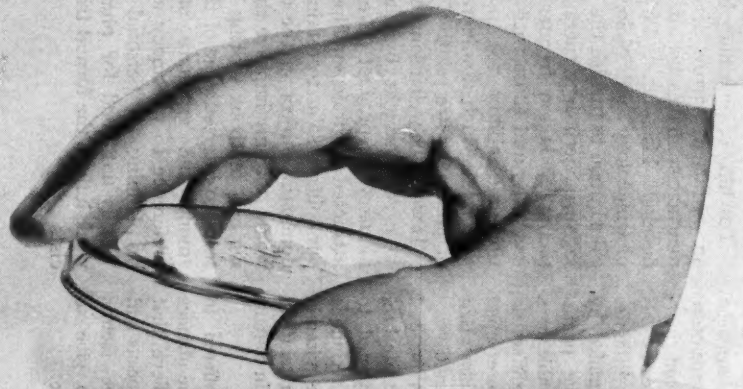
specific against coccic infections

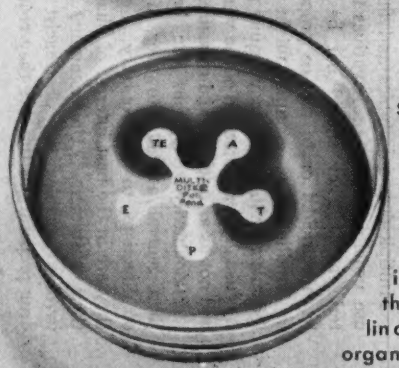
Now, you can prescribe *specific therapy against* staph-, strep- or pneumococci by simply writing *Filmtab* ERYTHROCIN Stearate. Since this coccic group causes most bacterial respiratory infections (and since these organisms are the very ones most sensitive to ERYTHROCIN) doesn't it make good sense to prescribe *Filmtab* ERYTHROCIN when the infection is coccic?

filmtab®

Erythrocin®

(Erythromycin Stearate, Abbott)
STEARATE





SPARES

INTESTINAL FLORA

This sensitivity test shows ERYTHROCIN and the same antibiotics against a typical intestinal strain of *E. coli*. Note that ERYTHROCIN and penicillin do not affect this gram-negative organism—although the other antibiotics show marked inhibitory action.

1. Eisenberg, et al.: Antib. & Chemo., 3:1026-1028, Oct., 1953.

with little risk of serious side effects

Since ERYTHROCIN is inactive against gram-negative organisms, it is less likely to alter intestinal flora—with an accompanying low incidence of side effects. Also, your patients seldom get the allergic reactions sometimes seen with penicillin. Or loss of accessory vitamins during ERYTHROCIN therapy. *Filmtab* ERYTHROCIN STEARATE (100 and 250 mg.) is supplied in bottles of 25 and 100. At pharmacies everywhere. Abbott

Filmtab®

Erythrocin®

(Erythromycin Stearate, Abbott)

STEARATE

® Filmtab—Film sealed tablets; patent applied for.

209183

Drug Stability

• • • • • • • • • *from page 685*

Antibiotics have several stability problems. Soluble penicillin salts dissolved in water lose strength rapidly, but in a dry powder or dry oil suspension the salt is stable for ordinary purposes. Procaine penicillin aqueous suspension is widely used for injection. It, however, is much more stable than the soluble salts in the presence of water. This may be the reason: very little is in solution and only that portion is subject to degradation. As that is degraded, more goes into solution—a slow procedure but it can be greatly hastened by heat. Deterioration is accompanied by discoloration and separation into thick and thin portions of the suspension, making injection difficult. This is why storage according to label is so important.

Stability of the vitamin preparations is important in safeguarding customers. The vitamins form an especially sensitive group of drugs. Since they may be safely administered in doses much larger than the recommended daily requirements of the National Research Council, the flush procedure is widely applied by manufacturers in obtaining an adequate shelf life. Vitamins showing a significant rundown in some formulations are vitamins A and D, thiamine, pantothenates, cyanocobalamin, folic acid and ascorbic acid. Here again the rundown will be more rapid in fluid preparations. The pharmacist must control the reaction factors: temperature and time. There are many conditions contributing to vitamin deterioration; in all cases this is hastened by elevated temperatures. Vitamins A and D and ascorbic acid are degraded by oxidation. Thiamine, folic acid, the pantothenates, and cyanocobalamin are stable in a narrow *p*H range. Each vitamin differs in its most stable environment, so mixtures must sometimes offer compromise conditions that for the individual vitamins are suboptimal.

Multiple-dose injectables and fluids for oral use usually contain preservatives that are bacteriostatic. They should not be expected to be bactericidal or to replace proper technique in handling. An example might be vitamin formulas. While these may require refrigeration, it is usually for protection of the vitamin content and not as an antibacterial measure.

Undoubtedly exceptions can be offered to these generalizations. However, in the absence of directions to the contrary, I believe that they are in the best interest of pharmacists and their customers. Understanding the factors involved enables the pharmacist to give to drug preparations the care they require.

Straight From Headquarters

• • • • • • • • • *from page 670*

jects as accounting, merchandising, pharmacy law and other subjects which are considered a part of the curriculum in pharmacy administration.

It was realized, of course, that there are few pharmacists who have acquired a Ph.D. in business administration or related subjects so as to qualify as heads of departments of pharmacy administration. On the other hand, some deans and teachers of pharmacy have had a rather broad experience in pharmacy as a whole, so they are competent to act as coordinators of programs in pharmacy administration by calling upon others who are trained in the several subdivisions of this subject, as well as occasional special lecturers from industry to complement the routine presentation of the subject.

When it comes to the teaching of pharmacy *per se*, the situation is unsatisfactory because the development of new products and dosage forms in the laboratories of large-scale manufacturers has provided attractive openings for those who are highly competent in this field. This has reduced the number of competent and well trained teachers available for this subject.

Teaching of pharmacy has too often been on a rather narrow level. The master pharmacist makes use of many sciences to develop his art. Physics, chemistry, pharmacology and biological sciences are called upon to furnish the basic understanding of modern drug therapy. The Ph.D. in pharmacy is too frequently trained quite narrowly, and those with superior imagination and ability to apply the scientific principles which dominate the modern art of pharmacy are relatively few in number.

It would be well if some of the men who are so eagerly sought by the pharmaceutical industry for product development could be attracted to professorships in pharmacy at our colleges so as to retain pharmacy as the dominant subject in the curriculum. This would not only improve the brand of teaching and textbook writing but it would also serve to interest some of the brighter minds among the graduate students to give preference to pharmacy as the end sought in planning for personal advancement.

It is not good for pharmacy to be the weak link in the formal training of pharmacists.

NEW MERCK INVERTED Rx DISPLAY SET

Order $25 Assortment of These Rx Chemicals

GET ONE Rx DISPLAY BOTTLE FREE

Add colorful interest to your Rx department with these 8-ounce, fused-label bottles.

ORDER any $25.00 assortment of the following fast-moving Merck Chemicals from your wholesaler's salesman:

Acid Acetylsalicylic U.S.P.
(Powder or Fine Crystals)
Acid Salicylic U.S.P. Powder
Bismuth Subcarbonate U.S.P.
Bismuth Subnitrate N.F.
Calcium Carbonate Precip. U.S.P.
Carbon Tetrachloride
Not for Medic. Use
Chloral Hydrate U.S.P.
Loose Cryst.
Chloroform for Tech. Use
Chloroform U.S.P.
Lanum Hydrous
Methyl Salicylate U.S.P. Synth.
Potassium Bromide U.S.P. Gran.
Potassium Citrate N.F. Gran.
Potassium Iodide U.S.P. Gran.
Quinidine Sulfate U.S.P.
Saccharin Sodium U.S.P. Powder
Sodium Bromide U.S.P. Gran.
Sodium Iodide U.S.P.
Sodium Salicylate U.S.P.
Free-Flowing Cryst.
Sodium Sulfate U.S.P. Gran.

Here's a unique display set that will enhance the professional appearance of your pharmacy. One bottle in the set is yours *free* with each $25.00 assortment of the Rx Chemicals listed in the box above. With re-orders you can complete the following colorful six-bottle set:

Copper Sulfate (Dark Blue)
Cupric Chloride (Greenish Blue)
Ferrous Ammonium Sulfate (Blue-White)
Nickel Chloride (Green)
Potassium Chromate (Yellow)
Potassium Dichromate (Orange)

Be sure to ask your wholesale salesman about this offer on his next visit. As a reminder, put the offer down in your want book now! **By popular demand, this offer has been extended to February 29, 1956.**

IMPORTANT: You may also include your normal purchases of narcotic products in the $25.00 total.

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

News *and* Notes . .

ASSOCIATIONS

The **University of Texas Pharmacy Alumni Association** has established "The Daddy Cline Memorial Fund" which is to be administered through the **Pharmaceutical Foundation** at the University of Texas. "Daddy" Cline occupied the first chair in pharmacy in Texas and is known as the father of pharmaceutical education in Texas . . . . The aforementioned Foundation has announced 14 tuition scholarship awards for $200 each. Applicants must be in the upper one-fifth of their class and must prove need . . . . The first report on a continuing manpower study in Texas pharmacy has been announced by Henry M. Burlage, dean of the College of Pharmacy University of Texas and executive secretary of the Pharmaceutical Foundation, sponsors of the project. This study represents an attempt to provide information on which an effective solution to pharmaceutical manpower, training, education and recruitment might be based.

Newly elected officers of **Delta Sigma Theta,** international medical, pharmaceutical and dental fraternity, are as follows: Supreme Royal Chancellor, Martin Schiffman; Supreme Royal Vice Chancellor, Robert Kirpitch; Supreme Royal Scribe, Howard Schlinger; Supreme Royal Treasurer, Lewis Feldman; Supreme Royal Historian, Eugene Tunick; Supreme Royal Sentinel, Stuart Tobin. . . .**Omega Chapter, New England College of Pharmacy,** has initiated plans for setting up an alumni chapter in the greater Boston area. The first meeting was held with alumni members on August 3, in Elks Hall, Brookline, Mass.

The **Massachusetts College of Pharmacy Alumni Club** of the New York, New Jersey, and Philadelphia areas held a dinner meeting at Hotel Hildebrecht, Trenton, N.J. on November 4. Featured on the program was a travelogue film shown by Edson Woodward of the S. B. Penick & Company in connection with trips into Africa and India.

The **New York State Pharmaceutical Association** will distribute a dental formulary to every dentist and pharmacist in the state. The formulary was prepared by a committee appointed by the National Conference of State Pharmaceutical Secretaries consisting of Henry M. Moen, chairman; John Debus, Josephine Johnson and Nicholas S. Gesoalde, N.Y.S.P.A. secretary.

The dental formulary is designed to provide dentists with a simplified, practical, up-to-date guide for prescription writing and to bring them in closer cooperation with physicians and pharmacists in an effort to reduce self-medication.

The **Consolidated Brooklyn Retail Pharmacists' Association** has launched a new professional relations program aimed at bringing together educators, students, practicing pharmacists, and members of other health professions in discussion sessions for an exchange of ideas.

The 62nd annual convention of the **Association of Military Surgeons of the U.S.** met in Washington, D.C., November 7–9. The main theme of the technical papers presented at the sessions was survival in the atomic age.

The annual meeting of the **Parenteral Drug Association** was held in New York, N.Y., October 25–27.

COLLEGES

The General Extension Division and the Bureau of Professional Relations of the **College of Pharmacy of the University of Florida** sponsored an annual refresher course for pharmacists in Tampa on October 3 and 4. The program followed the pattern adopted by the American Association of Colleges of Pharmacy for in-service training for pharmacists. Program topics included a "Practical Pharmacy Clinic," "Modern Drug Store Planning and Merchandising," "Public Relations," and "Personnel Evaluation."

The **University of Texas** sponsored its second El Paso County Pharmacy Management Conference October 26 and 27 in El Paso. The University's College of Pharmacy and Extension Division conducted the meeting, with the El Paso County Pharmaceutical Association cooperating.

associations, colleges, manufacturers, people . . .

The **University of Michigan** *Annual Pharmacy Lectures* program was held October 26 with a large attendance of pharmacists participating in the all-day meeting. Among the topics discussed were "Mental Health," "Modern Gerontology," "The Responsibilities of the Pharmacist to His Profession," "Promoting Professional Pharmacy," and "The Michigan Pharmacy Study."

Faculty Changes and Additions

Dr. Cecil P. Headlee, formerly of the University of Oklahoma College of Pharmacy, has been appointed to succeed Dr. Arthur G. Zupko as head of the Department of Pharmacology at the **St. Louis College of Pharmacy and Allied Sciences.** Dr. Zupko has been appointed associate dean at the **Brooklyn College of Pharmacy.**...Dr. James R. McCowan, formerly of Loyola University of the South, College of Pharmacy, has joined the faculty of the St. Louis College of Pharmacy and Allied Sciences as a member of the Department of Pharmacy.

Dr. Frank Cosgrove, formerly of the University of Nebraska College of Pharmacy, and Dr. Josephine Siragusa, a recent graduate of the University of Florida College of Pharmacy, have joined the faculty of the **Loyola University of the South, College of Pharmacy.**

PEOPLE

Corazon Ramirez of Manila, Philippine Islands, has been awarded the Lunsford Richardson Memorial Fellowship for graduate study in pharmacy at the University of North Carolina. Miss Ramirez graduated from the University of the Philippines with the degree of Bachelor of Science in Pharmacy in 1949. She will be supported in her graduate study at the University of North Carolina by a fellowship from the Richardson Foundation under the Exchange Visitor Program of the Fulbright Act.

Dr. George B. Hook, formerly of the Pittsburgh College of Pharmacy, has joined the staff of the U.S. Public Health Service, Division of Indian Health, and is located at the Tacoma Indian Hospital, Tacoma, Wash. Dr. Hook served as faculty advisor of the Student Branch at the University of Pittsburgh.

The retirement of the founder and only dean of the College of Pharmacy of St. John's University, Brooklyn, **Dr. John L. Dandreau,** will take place August 31, 1956. He will go on terminal leave on June 30. He is president of the New York Druggists' Association, past president of the New York branch of the AMERICAN PHARMACEUTICAL ASSOCIATION and a fellow of the American College of Apothecaries.

The American Legion club, Omaha, Neb., was the scene October 4 of a testimonial dinner tendered by the Omaha Pharmaceutical Association honoring **Dr. William A. Jarrett** on his 20th anniversary as dean of the Creighton University College of Pharmacy.

MANUFACTURERS

Chesebrough-Pond's Inc. will establish new headquarters at 485 Lexington Avenue, New York, by the fall of 1956. The move represents a consolidation of facilities of Chesebrough Manufacturing Company, Consolidated, and Pond's Extract Company which were merged July 1.

A new color motion picture—"Going Our Way?"—with episodes taken from the files of **Parke, Davis & Company** was released October 1 for showings before medical, pharmaceutical and allied professional groups. Bookings for the 30 minute film can be arranged free of charge by contacting John A. MacCartney, trade relations manager, Parke, Davis & Company, Detroit 32, Mich.

Dr. Robert L. Vought has joined **Bristol Laboratories Inc.** as associate medical director.

The corporate name of Winthrop-Stearns Inc. has been changed to **Winthrop Laboratories, Inc.**

Wyeth Laboratories executive office and the Wyeth Institute for Medical Research moved to their new building at Radnor, Pa., on October 31.

A.PH.A. BRANCHES

LOCAL BRANCHES

Drs. William S. Apple and Alex Berman of the University of Wisconsin School of Pharmacy addressed the October meeting of the **Southeast Wisconsin Branch.** Dr. Berman reviewed several recently published books concerning the sociological problems confronted in the handling of narcotic addicts. Dr. Apple presented films illustrating the problems of the addict and the difficulties of law enforcement. The October 18 and 19 meetings of the **Chicago** and the **Northwestern Ohio** (Toledo) **Branches** were addressed by Charles C. Rabe, assistant to the A.PH.A. Secretary, whose topic was "Services of the A.PH.A. to American Pharmacy."

The **Northern New Jersey Branch** met last month with the Student Branch of Rutgers College of Pharmacy at the college. Robert E. Abrams, secretary of the A.C.A., presented the topic "Pharmacy—Professional and Otherwise."

Newly elected officers of the **New Orleans Branch** are William P. O'Brien, president; Victor H. Bradbury, vice president; Ben Bavly, secretary; and Ola Elizabeth Morgan, treasurer. President O'Brien is a member of the Louisiana Board of Pharmacy and of the Board of Directors of the Historical Pharmacy Museum in New Orleans. He is a past-president of the Louisiana State Pharmaceutical Association and also the Louisiana Society of Hospital Pharmacists.

STUDENT BRANCHES

The **Massachusetts College of Pharmacy Student Branch** held its first meeting of the college year on October 4. Faculty member John Fay pointed up the public relations opportunities offered by active participation in the observance of Pharmacy Week; and in keeping with the atmosphere, a standing publicity committee was appointed, comprised of Seniors John Leary and James Saunders; Juniors Bernard Miller and Adelard Cournoyer and Sophomore Lloyd Winer.

Charles C. Rabe, assistant to the secretary of the A.PH.A., met during the period October 18–20 with Student Branches of the Universities of **Illinois, Toledo** and **Michigan,** where he discussed the many returns to pharmacists from ASSOCIATION membership in terms of services rendered.... "The Importance of National Pharmacy Week" was the topic selected by Samuel Silverman, executive secretary of the Massachusetts Pharmaceutical Association, who addressed the October meeting of the **New England College of Pharmacy Student Branch**.... The **Ferris Institute Student Branch** met the second and fourth weeks of October. At the earlier meeting the members listened to "A Salute to Pharmacists," a recording of Winthrop Laboratories, delineating the public service aspects of pharmacy. Dr. Robert C. Wilson, dean emeritus of the University of Georgia College of Pharmacy and now a member of the Ferris staff, spoke at the second meeting, reminiscing on the changes in pharmacy during his lifetime.... Congressman Carl T. Durham addressed the October meeting of the **University of North Carolina Student Branch** on the subject "Atomic Energy As Related to Peaceful Purposes."

Inspector George Gilbert of the Indiana Board of Pharmacy and Sgt. David Taylor of the Narcotics Bureau of Indiana discussed the subject of narcotics at the October meeting of the **Purdue University Student Branch**.... This was also the subject of two films shown at the October meeting of the **University of Wisconsin Student Branch.**

The September meeting, the first of the college year, was called by the **Loyola University Student Branch** to appoint committees for the 1955–56 period. At the October meeting, which was devoted to programming, the Branch's annual Christmas dance was scheduled for December 16....Nearly 300 students attended the October meeting of the **St. Louis College of Pharmacy and Allied Sciences Student Branch** at which a film on prescription practice was enthusiastically received....And at the **University of Connecticut Student Branch** October meeting Daniel Horwitz of the Wyeth Company spoke on "The Use of Digitalis in Heart Failure."

Members of the **University of Illinois Student Branch** have taken an active part in orienting members of the freshman class. Serv-

ing as guides, they have helped to familiarize them with the campus and, through the medium of social and educational programs, have enhanced the newcomers' feeling of belonging.

The **University of Arizona Student Branch** was addressed by Dr. Walter Phillips, head of the Botany Department of the University, at its October meeting. Dr. Phillips' recent trip to Australia was the subject of his talk.... Robert Abrams, A.C.A. secretary, addressed a meeting, also held in October, of the **Philadelphia College of Pharmacy and Science Student Branch.** His topic asked, "Is Pharmacy a Profession?"

The September meeting of the **Southern College of Pharmacy Student Branch** featured a panel discussion on the history, composition, objectives and activities of pharmaceutical organizations on the local and national levels. Tyre Watson, president of the 5th District Pharmaceutical Association, and W. H. Dunaway, president of the Georgia Pharmaceutical Association, were guest panelists. Dean Melvin A. Chambers, also a member of the panel, spoke on the work of the AMERICAN PHARMACEUTICAL ASSOCIATION. Moderator was Dr. Oliver M. Littlejohn, faculty adviser of the Student Branch. Mrs. Regina Baird, executive secretary of the Georgia Pharmaceutical Association, was a special guest at the meeting.

Elections and Appointments

The **Columbia University Student Branch** has elected the following officers to serve during 1955–56: Robert Havranek, president; Stuart Tobin, vice president; James Echiandia, secretary; and Melvin Epstein, treasurer. Robert Pickholtz will serve as interfraternity council representative, and Samuel Ehrenberg as student council representative.

The Branch was addressed at its October 6 meeting by Dean E. E. Leuallen, who discussed his recent trip to Formosa as consultant in pharmacy for the U.S. Foreign Operations Administration.

Officers for 1955–56 at the **North Dakota Agricultural College School of Pharmacy Student Branch** are as follows: Jack Southam, president; Donald Stilwell, vice president; and Jacqueline Jungers, secretary-treasurer. Dr. Martin Blake serves as faculty advisor.

Dr. Joseph H. Kern has been appointed faculty advisor of the **University of Florida Student Branch.**

Officers for 1955–56 at **Duquesne University College of Pharmacy Student Branch** are Richard A. Pulasky, president; Gust Navaroli, vice president; and Mary C. DiIorio, secretary-treasurer. Professor Robert G. Shaheen will serve as faculty advisor.

Clyde Moses has been elected to serve as president of the **Xavier University College of Pharmacy Student Branch** during the coming college year. Other officers are Janice A. Dukes, vice president; Dorothy L. Millsap, secretary; and Eva E. Celestaine, treasurer.

At **Kansas University College of Pharmacy Student Branch,** newly elected officers are: Jim Yowell, president; Jim Stewart, vice president; Sue Daugherty, secretary; and Sam Wagner, treasurer. Dr. Charles F. Peterson is the newly appointed Branch faculty advisor.

The **University of Kansas City School of Pharmacy Student Branch** has elected the following officers to serve for 1955–56: Martin Morrisey, president; William Osborn, vice president; Joann Johnson, secretary; Robert Algur, treasurer. Professor Lyle W. Willits is faculty advisor of the Branch.

The **Howard College Student Branch** (Ala.) officers for 1955–56 are James E. Hawkins, president; James E. Shaw, vice president; Frances O. Cassell, secretary; Herman Crotwell, treasurer; George C. Smith, historian; and Jimmy E. Wilson, chaplain.

The **George Washington University Student Branch** will be served by the following officers during 1955–56: George Y. Young, president; Alan B. Berger, vice president; Richard C. Sullivan, treasurer; and Ernest F. Zimmerman, secretary, who will serve in this office vacated as a result of the untimely demise on September 16 of Joenette M. Zurlo. Her loss is keenly felt. Harvey S. Fenster will serve as editor of the *Percolator;* Marvin Schneider is representative to the Pharmacy Council, and Donald V. Fisher is alternate representative. Dr. Robert M. Leonard is faculty advisor.

Temple University Student Branch officers for 1955–56 are James Robert Coker, president; Anthony J. Drobnis, Jr., vice president; Laura Reiger, corresponding secretary; Peggy Loftus, recording secretary; and James O.

Wenger, treasurer. Dr. A. John Vazakas is faculty advisor.

Officers of the **Southern College of Pharmacy Student Branch** for the coming year are: Larry Farr, president; Bill Pentecost, vice president; Don Stokes, treasurer; and B. J. Adams, secretary.

Robert Scalice has been elected president of the **St. John's University Student Branch** for 1955–56. Other officers are Dominic Attanasio, vice president; Frank Farrell, secretary; and John LaMonte, treasurer. Professor Ignatius Bellafiore is faculty advisor.

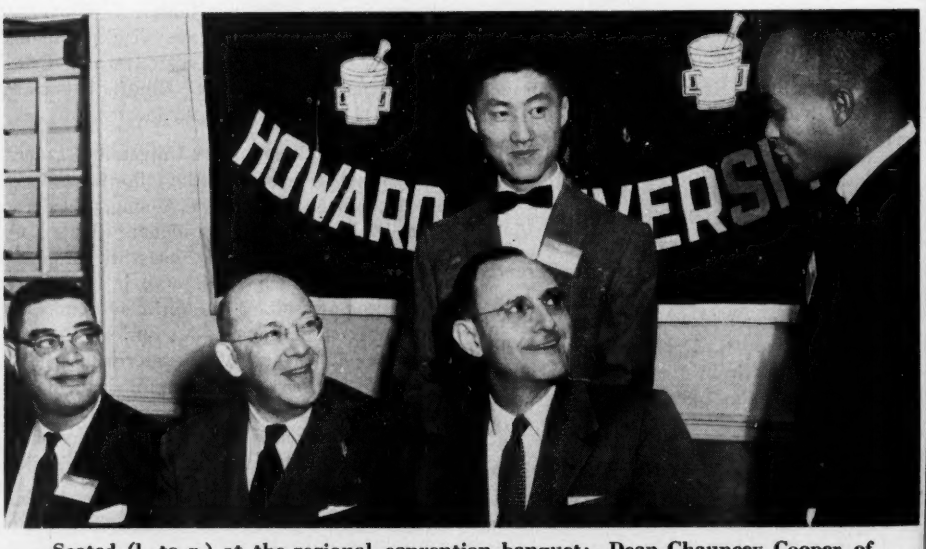
Convening last month, Branch members were addressed by a representative of Eli Lilly and Company, whose discussion of "Diabetes and Its Control" served to focus attention on *Diabetes Detection Week*, November 13–19.

Districts 1 and 2 Meet in Washington, D.C.

One hundred and fifteen students and faculty advisers representing 18 Student Branches in **Districts 1** and **2** met at the new College of Pharmacy building of Howard University in Washington, D.C., on Saturday, October 29, for a general meeting devoted largely to panel discussions on the following subjects: "How to Strengthen the A.PH.A.," "Public Relations," and "Interprofessional Relations." George Y. Young, president of the George Washington University Student Branch, presided over the morning and afternoon sessions. Frank L. Austin, president of the Howard University Student Branch, served as toastmaster at the evening banquet at which Dr. Robert P. Fischelis, A.PH.A. secretary, delivered the principal address.

The morning session was devoted to student panel discussions on three major topics which were divided into eighteen subtopics. The sessions were presided over by student moderators Robert Baugh, Sylvester Flowers and Augusta Greenfield of Howard University. Wilbur E. Powers, Louis E. Kazin, and Dr. John L. Voigt served as professional advisors and also participated as panelists in an afternoon session devoted to the same subjects. Also participating in the afternoon sessions on interprofessional relations were: Dr. Paul B. Cornely, medical director of Freedman's Hospital; Dr. Joseph L. Henry, associate professor of oral medicine, Howard University; and Dr. Angus MacIvor Griffin, assistant dean, George Washington University School of Medicine.

Charles C. Rabe, assistant to the A.PH.A. secretary, served as general moderator during the afternoon panel discussions which were followed by an address by Colonel Bernard Aabel, chief of the Medical Service Corps of the U.S. Army, who spoke on "Pharmacy and Military Service."



Seated (l. to r.) at the regional convention banquet: Dean Chauncey Cooper of Howard's College of Pharmacy; A.PH.A. Secretary Robert P. Fischelis; Dean Charles Bliven, George Washington University School of Pharmacy; (standing) GWU Student Branch President George Young; Frank Austin, Howard's Student Branch president

NEW Prescription Products

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Practical Pharmacy Edition, Journal of the American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington 7, D.C.

Cortrophin-Zinc Suspension

Description: An aqueous suspension, each cc. providing 40 U.S.P. units of corticotropin with zinc hydroxide (2 mg. of zinc) for repository action.

Indications: In treatment of shock, rheumatic afflictions, allergic reactions, skin and eye diseases, and other stressful conditions.

Administration: Injection of 1 cc. provides ACTH activity for 1 to 3 days. Does not require prior heating for injection with a 24–26 gauge needle. Dosage should be individualized.

Form Supplied: 5-cc. vials.

Source: Organon Inc, Orange, N.J.

Digoxin Elixir Pediatric

Description: A light green, lime flavored solution, each cc. of which contains 0.5 mg. of digoxin.

Indications: For any condition in infants and children for which digitalis is indicated, particularly cardiac decompensation and arrhythmias. Digoxin has the same effect as digitalis leaf and is eliminated rapidly.

Adminstration: For digitalizing children, 0.03–0.05 mg. per lb. of body weight given orally over a 24-hour period in three equal doses at 6-hour intervals. A further dose may be given 6 hours after the last, if necessary. Maintenance dose is 20–40% of the total digitalizing dose or about 0.01 mg. per lb. given as a single or divided dose.

Form Supplied: 2-oz. bottle with graduated dropper.

Source: Burroughs Wellcome & Co., Inc., Tuckahoe, N.Y.

Dipaxin Tablets

Description: Each scored tablet contains 5 mg. of an indandione derivative.

Indications: A prothrombin depressent for prevention of blood clots in cardiovascular disease.

Administration: Orally, as directed.

Form Supplied: Bottles of 100 tablets.

Source: The Upjohn Co., Kalamazoo, Mich.

Kora-12 with Liver Injection

Description: An injection containing in each cc.: crystalline vitamin B_{12}, 30 mcg.; folic acid, 5 mg.; liver injection U.S.P., 5 mcg.; phenol, 0.5%; water for injection, *q.s.*

Indications: In pernicious and megaloblastic anemias.

Administration: 0.5–1 cc. by deep intramuscular injection, once or twice weekly. For maintenance, injection of 0.5 cc. every other week.

Form Supplied: 10-cc. vials.

Source: The Kormel Co., Lodi, Calif.

Korep Injection

Description: A suspension containing in each cc.: progesterone, 25 mg.; estrone, 2.5 mg.; procaine HCl, 0.5%; thimerosal preservative 0.01%.

Indications: For establishing spontaneous cyclic bleeding.

Administration: Amenorrhea of less than two years' duration—1 cc. daily for two consecutive days. Irregular menstrual bleeding—1 cc. two days before expected menstruation; repeat at 28-day intervals for 3 or 4 months, if necessary, to establish regular cycle.

Form Supplied: 10-cc vials.

Source: The Kormel Co., Lodi, Calif.

Kor-Tep Aqueous Suspension

Description: Each cc. of aqueous suspension contains: progesterone, 25 mg.; estrone, 6 mg.;

NEW *Prescription Products*

testosterone, 25 mg.; procaine HCl, 1%; methylparaben, 0.135%; propylparaben, 0.015%.

Indications: For control of functional uterine bleeding.

Administration: 1 cc. by deep intramuscular injection only for 5 successive days. If bleeding stops within 12 hours, discontinue therapy after third day. Institute therapy about 20 days later to induce withdrawal bleeding. Repeat each month for 3 to 5 months.

Form Supplied: 10-cc. vials.

Source: The Kormel Co., Lodi, Calif.

Levsin Sulfate Tablets

Description: Each white scored tablet contains 0.25 mg. of *l*-hyoscyamine.

Indications: Anticholinergic antispasmodic for relief of pain and spasm in gastrointestinal spasticitis, pylorospasm, peptic ulcer, biliary colic and dysmenorrhea.

Administration: One or two tablets every four hours. In peptic ulcer, one tablet 30 minutes before each meal and at bedtime.

Form Supplied: Bottles of 100, 500 and 1,000.

Source: Kremers-Urban Company, Milwaukee, Wis.

Neo-Cortef Sterile Aqueous Suspension

Description: A suspension containing in each cc.: hydrocortisone acetate, 50 mg., and neomycin sulfate, 5 mg., in sodium chloride injection containing 2 mg. polysorbate 80 and 30 mg. polyethylene glycol 4000, and preserved with methylparaben 0.18% and propylparaben 0.02%.

Indications: In management of rheumatoid and osteoarthritis.

Administration: Local injection into joints and bursa as with Cortef acetate suspension.

Form Supplied: 1-cc. and 5-cc. vials.

Source: The Upjohn Company, Kalamazoo, Mich.

Pen-Vee Tablets and Bicillin-Vee Tablets

Description: Each Pen-Vee tablet contains 125 mg. (200,000 u.) of penicillin V. Each Bicillin-Vee tablet contains 100 mg. (100,000 u.) of benzathine penicillin G and 62.5 mg. (100,000 u.) of penicillin V.

Indications: For infections known to respond to oral penicillin therapy, particularly those caused by penumococcus, staphylococcus, streptococcus, or gonococcus.

Administration: Orally, as directed by physician.

Form Supplied: Each in bottles of 36 tablets.

Source: Wyeth, Inc., Philadelphia, Pa.

Placidyl Capsules

Description: Each capsule contains 500 mg. of the hypnotic ethochlorvynol (not a barbiturate).

Indications: For nervous insomnia; induces sleep in 15 to 30 minutes. It is claimed to leave no hangover.

Administration: One capsule at bedtime.

Form Supplied: Bottles of 100 capsules.

Source: Abbott Laboratories, North Chicago, Ill.

Raucylate Capsules

Description: Each capsule contains: *R. serpentina*, whole powdered root, 25 mg.; acetylsalicylic acid, 300 mg.; aluminum hydroxide dried gel, 65 mg.; and ascorbic acid, 25 mg.

Indications: In arthritis; in rheumatic joint and muscle pain; in neuritis, and in many other acute and chronic painful states, for the alleviation of pain and freedom of apprehension.

Administration: One or two capsules three or four times daily as required. The dosage for children is correspondingly less.

Form Supplied: Bottles of 100 and 1,000.

Source: Flint, Eaton & Company, Decatur, Ill.

Sulfa-Plex Vaginal Cream

Description: A water-dispersible cream containing 2.5% each of sulfacetamide, sulfadiazine, sulfamerazine and sulfamethazine.

Indications: Treatment of nonspecific vaginitis and cervicitis, ulcerative vaginitis and postoperative conditions of the vagina and cervix.

Administration: One applicatorful twice daily, reduced to once daily after one week if improvement is noted.

Form Supplied: 2-oz. tubes, with or without applicator.

Source: Rowell Laboratories, Baudette, Minn.

Tricofuron Suppositories and Powder

Description: Each 2-Gm. suppository contains 0.25% furazolidone [N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidone] in a water-miscible base. The powder contains 0.1% furazolidone in a water-soluble base of lactose, dextrose, and citric acid.

Indications: For concomitant use in trichomonas vaginalis vaginitis and accompanying secondary bacterial infections.

Administration: Suppositories—1 suppository in morning and 1 at bedtime for one week, then 1 suppository at night for three or four weeks through and following menstrual period, or for one week after no more trichomonads can be found on microscopic examination. Powder—insufflation by physician of vaginal vault and cervix 2 times weekly as long as suppositories are used.

Form Supplied: Boxes of 12 hermetically sealed suppositories; bottles containing 30 Gm. of powder.

Source: Eaton Laboratories, Norwich, N.Y.

Vascutum Improved Capsules

Description: Each capsule contains: choline bitartrate, 349 mg.; inositol, 167 mg.; dl-methionine, 84 mg.; pyridoxine HCl, 0.67 mg.; vitamin B_{12}, 2 mcg.; quercetin, 15 mg.; and ascorbic acid, 12.5 mg.

Indications: For the prevention and treatment of atherosclerosis and its sequelae, and in liver disorders.

Administration: Orally, six capsules daily—three on arising and three on retiring.

Form Supplied: Bottles of 100 and 1,000 capsules.

Source: Schenley Laboratories, Inc., New York, N.Y.

V-Cillin Pulvules

Description: Each gray and green capsule contains 125 mg. (200,000 units) of penicillin V, which exhibits a high degree of stability in the presence of gastric acidity.

Indications: For infections known to respond to oral penicillin therapy, particularly those caused by pneumococcus, staphylococcus, streptococcus, or gonococcus.

Administration: 1 or 2 capsules three times daily.

Form Supplied: Container of 50 capsules.

Source: Eli Lilly and Company, Indianapolis, Ind.

Vio-Geric Tablets

Description: Each pink sugar-coated tablet contains: vitamins—A, 10,000 units; D, 1,000 units; B_1, 10 mg.; B_2, 5 mg.; B_6, 0.5 mg.; B_{12}, 5 mcg.; C, 100 mg.; E, 5 IU; niacinamide, 20 mg.; Ca pantothenate, 5 mg.; folic acid, 0.25 mg.; minerals in mg. (as sulfates)—Co, 0.1; Cu, 0.5; Mn, 1.5; Mg, 3.0; K, 4.4; Zn, 0.5; I (as KI), 0.1; $FeSO_4$, 130 mg.; $CaHPO_4$, 325 mg.; and choline dihydrogen citrate, 75 mg.; inositol, 25 mg.; rutin, 25 mg.

Indications: Nutritional supplement in geriatrics.

Administration: One or two tablets daily.

Form Supplied: Bottles of 60, 250, 1,000 and 5,000.

Source: Rowell Laboratories, Inc., Baudette, Minn.

Vi-Trins Capsules

Description: Each capsule contains: vitamin B_{12} with intrinsic factor concentrate, 0.5 u.; desiccated liver, 200 mg.; ferrous sulfate exsiccated, 340 mg.; ascorbic acid, 100 mg.; folic acid, [illegible] mg.; thiamine mononitrate, 2 mg.; riboflavin, 2 mg.; niacinamide, 15 mg.; pyridoxine HCl, 0.5 mg.; and calcium pantothenate, 1.5 mg.

Indications: For use in all anemias which respond to nutritional treatment.

Administration: Orally, two capsules daily in divided doses.

Form Supplied: Bottles of 50 and 100.

Source: U.S. Vitamin Corporation, New York, N.Y.

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy)

Amphetamine with Amobarbital T. D. Capsules

Timed disintegration capsules containing in each No. 1 yellow/clear capsule: *d*-amphetamine sulfate, 10 mg., and amobarbital, 60 mg.; and in each No. 0 brown/clear capsule: 15 mg. and 100 mg. respectively, are marketed by *West-ward, Inc.* Both strengths are available in bottles of 100 and 1,000 capsules.

Bolus Kao-Strep with Vitamin A (Vet.)

A bolus containing streptomycin, pectin, kaolin, alumina and vitamin A, for treatment of infectious calf scours, swine dysentery and scours in pigs and other intestinal infections, has been introduced by *Wyeth Laboratories.* One bolus is administered orally and repeated at eight to twelve hour intervals depending upon type, extent and severity of infection.

Digoxin Tabloid 0.5 mg.

Burroughs Wellcome & Co. has made available scored light green tablets containing, in each, 0.5 mg. of digoxin. Tablets containing 0.25 mg. are also available. Digoxin is recommended

NEW *Prescription Products*

for use in any condition for which digitalis is indicated. The 0.5-mg. tablets are supplied in bottles of 100 and 1,000.

Geriject Capsules and Parenteral

Geriject capsules containing vitamins, minerals, inositol and choline; and Geriject parenteral containing essential vitamins and minerals have been marketed by *C. F. Kirk Company* for use in geriatric medication. The capsules are supplied in bottles of 50, 100 and 1,000. The parenteral form is supplied in 10-cc. multiple-dose vials.

Koratone Tablets

The Kormel Co. has marketed for oral therapy in common anemias sugar-coated tablets containing in each: crystalline vitamin B_{12}, 10 mcg.; folic acid, 1 mg.; ferrous sulfate, exsiccated, 200 mg.; ascorbic acid, 50 mg.; desiccated liver N.F., 200 mg.; stomach mucosa, 100 mg.; thiamine mononitrate, 2 mg.; riboflavin, 4 mg. Administered one tablet three times daily. Supplied in bottles of 100 tablets.

Koravite Tablets

A dietary supplement tablet marketed by *The Kormel Co.*, Koravite contains in each daily dose of two tablets: vitamins A, 5,000 u.; D, 1,000 u.; E, 2 mg.; B_1, 3 mg.; B_2, 3 mg.; B_6, 1 mg.; C, 90 mg.; B_{12}, 5 mcg.; nicotinamide, 25 mg.; panthenol, 1 mg.; folic acid, 1 mg.; choline (as dihydrogen citrate), 20 mg.; inositol, 20 mg.; methionine, 20 mg., in addition to maintenance and trace minerals. Supplied in bottles of 100 coated tablets.

Korazyme Tablets

A choleretic digestant and cholagogue, Korazyme is marketed by *The Kormel Co.* as enteric coated, chocolate colored tablets containing in each: ox bile extract, 130 mg.; pancreatin, 130 mg.; papain, 65 mg.; desiccated defatted duodenal substances, 65 mg. Korazyme tablets are contraindicated in obstructions of any kind of the hepatic or common bile ducts and in severe hepatitis. Supplied in bottles of 100 tablets.

Koricide Solution

A solution recommended for external fungus infections is marketed by *The Kormel Co.* and contains in each fluidounce 37 mg. of nitromersol in a solution containing the isopropyl alcohol-soluble extractives from coal tar, 2.22 Gm.; quillaja, 0.74 Gm.; benzoin, 2.96 Gm.; certified FD&C dye, *q.s.*; isopropyl alcohol, 80–85%. Supplied in 5-cc. and 1-oz. bottles.

Kormacoral Tablets

Tablets containing, in each, vitamin B_{12}, 4 mcg., and desiccated stomach mucosa, 200 mg., for oral B_{12} therapy are marketed by *The Kormel Co.* Available in bottles of 90 tablets.

Nitrotalans Tablets
Nitrotalans with Phenobarbital Tablets

Tablets containing 10 mg. of pentaerythritol tetranitrate (Nitrotalans) for long lasting vasodilation in angina pectoris has been marketed by *Paul Maney Laboratories, Inc.* One or two tablets are given orally four times daily. Tablets containing 10 mg. of pentaerythritol tetranitrate plus 15 mg. of phenobarbital are also available. Both tablets are supplied in bottles of 100 and 500.

Penicillin Tablets 500,000 Units

Tablets containing, in each, crystalline potassium penicillin G, 500,000 u. buffered with calcium carbonate are available from *West-ward, Inc.*, in bottles of 50 and 100.

Quadrates—Electrolyte Concentrates

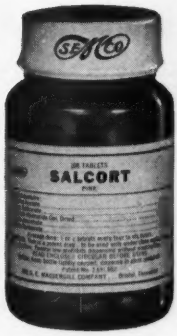
Cutter Laboratories has marketed a combination of four 30-cc. vials, each vial containing a 4 molar solution of either sodium chloride, sodium lactate ammonium chloride or potassium acetate. One cc. of each solution contains 4 milliequivalents (meq.) of the respective electrolyte. The 30-cc. Quadrates are packaged in multipaks of 12.

Romilar Expectorant Syrup

A syrup flavored with orange, lemon and coriander, and containing in each teaspoonful 15 mg. of dextromethorphan HBr and 90 mg. of ammonium chloride with 0.12% sodium benzoate as a preservative, has been marketed by *Hoffmann-La Roche Inc.* The expectorant syrup is available in bottles of 16 oz. and 1 gallon.

Solu-Cortef Sterile—With Water

A new combination package containing a 10-cc. vial of Solu-Cortef Sterile for Injection (100 mg. of hydrocortisone) and a 2-cc. ampul of injectable sterile water has been made available by *The Upjohn Company*. The 10-cc. vial without the water ampul is also available.



this new antiarthritic

moves fast off the shelf

Salcort

More and more Salcort is being prescribed each day, because this cortisone-salicylate combination has proved unusually effective in the treatment of arthritic conditions. Virtually without side effects, Salcort causes no withdrawal problems.

Be certain you're well-stocked with Salcort. It moves fast—and returns you a generous profit. Heavy, continuing, nation-wide promotion keeps the Rxs coming in.

Supplied in bottles of 100 pink monogrammed tablets

Each Salcort Tablet contains:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried	0.12 Gm.
Calcium ascorbate (equivalent to 50 mg. ascorbic acid)	60 mg.
Calcium carbonate	60 mg

Effective in:

Rheumatic fever
Rheumatoid arthritis
Rheumatoid spondylitis
Bursitis
Still's disease
Neuromuscular affections

THE S. E. MASSENGILL COMPANY
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ACHROMYCIN

nasal suspension

Achromycin with Hydrocortisone and Phenylephrine

the foremost antibiotic—ACHROMYCIN* *Tetracycline*
the best anti-inflammatory agent—HYDROCORTISONE
the best nasal decongestant—PHENYLEPHRINE

Lederle now offers a highly effective combination drug for treating nasal infections and inflammation associated with common colds, hay fever, sinus conditions, and other upper respiratory infections. ACHROMYCIN Nasal Suspension attacks disease germs promptly, relieves the "stuffed up" feeling, reduces soreness.

This newest ACHROMYCIN dosage form promises to be a best-seller, particularly in the coming cold-weather months. It is now being widely advertised and detailed, so stock up now!

In 15 cc. "squeeze" bottle. Convenient, easy-to-use, unbreakable.

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